

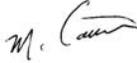


STATE OF CONNECTICUT

DEPARTMENT OF PUBLIC HEALTH

PLEASE COPY THIS FOR ALL HEALTH CARE PROVIDERS IN YOUR PRACTICE

TO: Primary Care Staff, Infectious Disease, Emergency Medicine, Internal Medicine, Pediatrics, Family Medicine, Laboratory Medicine, and Infection Control Personnel

FROM: Matthew Cartter, MD, MPH, State Epidemiologist 

DATE: February 5, 2010

SUBJECT: Mumps Disease Advisory

- 1) Since January 1, 2010, there have been 13 suspected mumps cases under investigation in Connecticut, two of which are laboratory confirmed; cases are related to an ongoing multistate disease outbreak occurring in the Northeast in a tradition-observant religious community.
- 2) Report all suspect cases of mumps to the Immunization Program at (860) 509-7929 or after hours at (860) 509-8000.
- 3) Keep suspect cases of mumps home for 5 days after onset of parotitis. If hospitalized or seen in a healthcare setting, place on droplet precautions immediately.
- 4) Obtain clinical specimens for diagnostic testing from all suspect mumps cases including blood (for IgM and IgG to mumps) and a buccal swab for viral isolation.
- 5) Children should receive their first dose of measles-mumps-rubella (MMR) vaccine at age 12 months and their second dose at age 4-6 years.
- 6) Ensure that all health care personnel have documentation of two mumps containing vaccinations or other proof of immunity to mumps.

Multi-state Mumps Outbreak

The Northeast region has been experiencing a large outbreak of mumps that began in the summer of 2009 (<http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5845a5.htm>). As of October 30, a total of 179 confirmed or probable cases had been identified from multiple locations in New York and New Jersey, and an additional 15 cases had been reported from Canada. The outbreak has primarily affected members of a tradition-observant religious community; median patient age is 14 years; 83% are male; three patients have been hospitalized. Among the cases for whom vaccination status was available, the majority were adequately immunized with two doses of mumps-containing vaccine. An update on the Northeast region mumps outbreak will be published shortly in the MMWR. Although little transmission has occurred so far outside the Jewish community, mumps can spread rapidly in congregate settings such as colleges and schools; therefore, public health officials and clinicians should heighten surveillance for mumps and ensure that children and adults are appropriately vaccinated.

Mumps in Connecticut

The Connecticut Department of Public Health (DPH) has recently been notified of 13 suspected mumps cases, two of which have been laboratory confirmed. The cases occurred in a tradition-observant religious community; the cases have primarily been teenage males. The Connecticut cases are epidemiologically linked to the multi-state mumps outbreak described above. DPH is conducting additional case finding and follow up to define the extent of the disease and implement appropriate public health control measures.

Mumps Clinical Manifestations, Transmission, and Immune Status

Mumps is an illness characterized by 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. Rare complications of mumps include orchitis, mastitis, oophoritis, deafness, and encephalitis. The infectious period for mumps is from 2 days

before onset of symptoms to 5 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 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. A list of potential contacts should be obtained and their immunity to mumps should be determined. Non-immune contacts are at risk for developing mumps and should be isolated at home from day 12 through day 25 after exposure. Vaccination is **NOT** considered effective post-exposure prophylaxis against mumps, but MMR vaccination should be offered to non-immune contacts that do not have a contraindication to MMR vaccination to protect against subsequent exposures.

In the healthcare settings, suspect mumps cases should be given a mask to wear; healthcare providers should institute standard and droplet precautions. Exposed healthcare workers who do not have evidence of immunity at the time of exposure should stay home for the incubation period of 12 days through day 25 after exposure. A physician documented history of mumps or documentation of receipt of two mumps containing vaccines are considered evidence of mumps immunity. All healthcare workers born on or after 1957 with no physician documented history of prior infection are recommended to receive **2 doses** of mumps containing vaccine. Healthcare workers born before 1957 who do not have a history of physician diagnosed mumps should consider receiving 1 dose of mumps containing vaccine and, in an outbreak setting, a second dose of mumps containing vaccine.

Patients are considered to have age-appropriate vaccinations for mumps if they are aged 1–6 years and have received 1 dose of mumps-containing vaccine (typically MMR vaccine), aged 7–18 years and have received 2 doses of vaccine, or aged 19–53 years and have received 1 dose of vaccine. In general, patients born before 1957 are assumed to have natural immunity to mumps from childhood community exposure.

Some people are at higher risk of mumps exposure, including international travelers and students at educational institutions, particularly students residing in congregate settings. High-risk individuals should have documentation of two doses of MMR (or documentation of physician-diagnosed mumps, demonstration of mumps IgG antibody, or birth before 1957), unless contraindicated.

Children who are not fully vaccinated against mumps are at the highest risk of infection. Individuals who have received two doses of mumps vaccine (preferably as MMR) are at significantly lower risk of developing mumps but outbreaks have been seen among fully vaccinated individuals (reference: CDC. Update: Mumps Activity---United States, January 1--October 7, 2006. MMWR 2006;55(42):1152-3 (www.cdc.gov/mmwr/preview/mmwrhtml/mm5542a3.htm)).

Effectiveness of mumps vaccine is estimated to be between 76% and 95% at preventing clinical mumps disease. Because mumps vaccine is not fully effective at preventing illness, persons who are fully vaccinated may still develop mumps illness. As an example, at 90% effectiveness, 10 of every 100 people vaccinated would still be susceptible to infection.

Health Care Provider Guidelines on Testing Patients for Suspected Mumps Infection

Testing for mumps infection should be considered on a case-by-case basis in consultation with the DPH Immunization Program for patients with the following clinical and epidemiologic criteria:

- An illness with acute onset of unilateral or bilateral tenderness, self-limited swelling of the parotid or other salivary gland lasting ≥ 2 days, and without other apparent cause, AND
- History of recent (within 25 days of symptom onset) travel and/or contact with a known or suspected human case of mumps in affected communities where a mumps outbreak is occurring.

Availability of Testing

The State DPH Laboratory will facilitate free testing at the Centers for Disease Control and Prevention using serologic testing for mumps-specific antibodies (IgM and IgG) as well as viral detection by RT-PCR and viral culture for any patient reported through the surveillance system who meets the above surveillance criteria. The Laboratory will also facilitate free testing of mumps suspects who do not meet the above exposure criteria on a case-

by-case basis in consultation with the Immunization Program. 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.

What specimens should be collected?

We highly recommend both the collection of serum samples and a buccal swab specimen (used for RT-PCR and viral culture) on each person with suspected mumps. Collection should be as close to symptom onset as possible.

How should specimens be collected and managed?

1. Serology: Collect 7-10 ml of blood in a red top or serum separator tube (SST). Store and ship specimens cold (using ice packs).

Acute serum: collect within 5 days after symptom onset

Convalescent serum: collect within 2-5 weeks after symptom onset

2. Buccal Swab: Collect buccal swab up to 9 days after symptom onset. Massage the parotid gland area (the space between the cheek and teeth just below the ear) for about 30 seconds prior to collection of the buccal secretions. The parotid duct (Stensen's duct) drains in this space near the upper rear molars. Place swab in a tube containing 2-3 mls of viral transport medium or other sterile isotonic solution (phosphate buffered saline or cell culture medium). Keep samples cold (4°C) or frozen (-70°C). Ship specimens using ice packs or dry ice. Avoid freeze-thaw cycles.

How to Request Testing

To request viral isolation kits from the State DPH Laboratory, call (860) 509-8501. Kits can be requested at any time so that they are available when needed. The requisition slip accompanying the test kits should be completed fully to ensure completion of testing. Specimens for mumps testing should not be sent to the State Laboratory without first consulting the DPH Immunization Program by calling (860) 509-7929, Monday-Friday 8:30 am – 4:30 pm or (860) 509-8000 after hours and weekends. If the patient meets the surveillance criteria for testing listed above, then authorization will be given to proceed with testing.

By notifying the Connecticut Department of Public Health, as required, we can facilitate obtaining rapid results and institution of control measures, if indicated. **Clinically suspect cases of mumps must be reported to the Connecticut Department of Public Health.** Reports should be made at 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.

In summary:

- 1) **Report all suspect cases of mumps to the Immunization Program at (860) 509-7929 or after hours at (860) 509-8000.**
- 2) **Keep mumps suspect cases home for 5 days following the onset of parotitis, and keep susceptible contacts home for the incubation period of 12 days through 25 days after exposure.**
- 3) **In healthcare settings, place mumps suspect cases on respiratory droplet isolation immediately by placing a face mask on the person.**
- 4) **Obtain clinical specimens for diagnostic testing (for both IgM and IgG to mumps and buccal swabs). Ship specimens using ice packs or dry ice.**
- 5) **Assure that all those eligible for MMR vaccine receive appropriate and timely vaccination.**
- 6) **Review health care personnel records to ensure appropriate documentation of immunity to mumps**

For further information regarding clinical disease, infection control measures, and updates on vaccinations visit <http://www.cdc.gov/mumps/clinical/index.html>. If you have questions, please contact the DPH Immunization Program at (860) 509-7929. Your cooperation is greatly appreciated.