



The Commonwealth of Massachusetts
Executive Office of Health and Human Services
Department of Public Health
Division of Epidemiology and Immunization

Clinical Mumps Advisory, March 2010

- 1. Mumps in the United States**
- 2. Reminder of Immunization and Infection Control Guidelines**

The Northeast US has been experiencing a large outbreak of mumps that began in the summer of 2009. As of January 29, 2010, a total of 1,521 cases were reported (CDC, 2010). The outbreak has primarily affected members of a tradition-observant Jewish community in New York and New Jersey. Recent reports have indicated that the outbreak continues to spread, with over 2,000 cases total, and cases spreading to New England and Canada. Although little transmission has occurred so far outside the initial community, mumps can spread rapidly in congregate settings such as colleges and schools. Public health officials and clinicians should heighten surveillance for mumps and ensure that children and adults are appropriately vaccinated.

In the outbreak, the largest percentage of cases (61%) has occurred among persons aged 7--18 years, and 76% of the patients are male. Among the cases for whom vaccination status was available, the majority were immunized with two doses of mumps-containing vaccine. Effectiveness of one dose of mumps vaccine has been reported between 73% and 91%; and two doses has been reported between 79% and 95%.

Although mumps vaccination alone is not sufficient to prevent this outbreak, **maintaining high two-dose coverage of measles, mumps, and rubella (MMR) vaccination coverage remains the most effective way to prevent and limit outbreaks when they occur.**

During recent years, heightened surveillance has resulted in a significant increase in the number of cases of mumps that are investigated. In 2008, seven confirmed cases were reported in Massachusetts; six cases were due to importation, many without documentation of MMR vaccination or with only one dose. In 2009, there were 14 confirmed cases; nine cases were associated with a college campus outbreak and the index cases were imported (eight cases had two doses of MMR, one had one dose). So far this year, there have been two confirmed and two probable cases of mumps in the state; one of the confirmed cases and both of the probable cases are associated with the NY/NJ outbreak.

MDPH Recommendations for Health Care Providers

- **Review the immunization status of all patients.** Ensure that all patients are up-to-date with their measles, mumps, and rubella (MMR) immunizations, including:
 - **Those with exemptions.** Re-evaluate the status of those with medical or religious exemptions and offer vaccine, if indicated or appropriate.
 - **Travelers.** Vaccinate those ≥ 12 months of age traveling abroad unless they have other acceptable documented proof of immunity.
- **Review the immunization status of all staff now!** Ensure all health care staff meet the latest, more stringent criteria for proof of immunity for measles, mumps, and rubella (see below).
- **Have a high index of suspicion.** Carefully assess all patients presenting with parotitis and report such suspect cases to your local board of health and the MDPH immunization program (617-983-6800).
- **Institute control measures promptly.** This is essential to prevent spread of disease and to limit disruption at your facility due to vaccination activities, exclusion of staff, etc.
 - In congregate settings such as schools and colleges, where mumps can spread quickly, early recognition, diagnosis, and public health intervention is essential.

Routine Vaccination Recommendations

Massachusetts law requires immunity to measles, mumps, and rubella (MMR) for school attendance. The law allows only medical or religious exemptions for the MMR requirement. In accordance with MDPH regulations, if there is a case of mumps, all students and staff who are exposed and do not have evidence of immunity will be **excluded from day 12 through day 26 after exposure**, including those with medical and religious exemptions.

- **Children.** All children ≥ 12 months of age should receive their first dose of measles, mumps, and rubella (MMR) at the 12-15 month routine health care visit, and every effort should be made to identify and vaccinate children who are not up-to date. All school-aged children should have two doses of MMR vaccine.
- **Adults.** All adults should have acceptable proof of immunity to mumps (see box below). Certain groups at high risk should have two doses of MMR, such as international travelers, health care workers, and college students.
- **Outbreaks.** During outbreaks, all school-aged children and adults with one dose of MMR vaccine should receive a second dose.

Acceptable Evidence of Immunity

1. Born in the US before January 1, 1957.
Exceptions: health care workers, where year of birth does **not** constitute acceptable proof of immunity (see *details below*).
2. One dose of mumps-containing vaccine, given ≥ 12 months of age. **Two doses of mumps-containing vaccine is recommended for everyone born after January 1, 1957.**
3. Serologic proof of immunity.

Note: Physician-diagnosed disease is **not** acceptable for any group.

New! Recommendations for Health Care Workers (ACIP, 2009)

While being born in the US before 1957 is adequate proof of immunity for the general public, it is **not** acceptable for those working in the health care setting. Unless they have serologic proof of immunity:

- **Health care workers born before 1957** should have one dose of MMR, though two doses are now recommended. Note that in an outbreak, two doses may be required.
- **Health care workers born in or after 1957** should have two doses of MMR.

It is important to ensure all who work in health care settings are protected **prior** to an exposure, as vaccination of susceptible workers after exposure will **no longer** be acceptable in most settings -- and such individuals will be excluded from work days 12 through 26 after exposure.

Diagnosis

The collection of clinical specimens for mumps testing on all individuals with mumps is extremely important. MDPH will facilitate free testing at the Hinton State Laboratory. Laboratory tests for acute mumps include:

- Viral culture of parotid gland duct drainage after parotid gland massage, and
- Serologic testing for anti-mumps IgM and IgG antibodies on acute and convalescent serum specimens.

Commercial laboratory results are not acceptable for public health purposes. It is important to contact an MDPH epidemiologist (available 24/7) at **617-983-6800** for technical guidance on specimen collection, necessary submission forms, and to arrange for transportation by courier to the MDPH laboratory.

Initial Management of Patients with Suspect Mumps

New! Mumps is infectious for **two days before through five days after onset of swelling** (day of onset is day zero).

- Both patients and staff should wear appropriate masks (masks for patients to prevent generation of droplets), using droplet precautions. If a patient is admitted, they should be on standard and droplet precautions.
- Patients should receive instructions to remain in isolation at home through five days after onset of swelling.

Other Control Measures

- **Identify** all close contacts among patients and staff exposed to the suspect case.
- **Assess** all exposed individuals for acceptable evidence of immunity, as outlined in the table above.
- **Vaccinate** all susceptible individuals.
- **Exclude** all susceptible contacts from work from day 12 through day 26 after exposure. (If the case is confirmed, even those staff who were vaccinated after exposure should be excluded.)
- **Surveillance** for early identification of secondary cases.

Reporting Please report all cases or suspect cases of mumps to your local board of health and to the MDPH Division of Epidemiology and Immunization at 617-983-6800.

References

ACIP. Provisional Recommendations for Measles-Mumps-Rubella (MMR) 'Evidence of Immunity' Requirements for Healthcare Personnel. August 28, 2009. www.cdc.gov/vaccines/recs/provisional/default.htm

CDC. Update: Mumps Outbreak---New York and New Jersey, June 2009--January 2010. MMWR 2010; 59:125-93. <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5905a1.htm>

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