



**BOSTON PUBLIC HEALTH COMMISSION**  
**Communicable Disease Control Division**  
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## **HEALTH ALERT: Mumps**

**Summary:** Three confirmed cases and eleven suspected cases of mumps in Boston residents have been reported to the Boston Public Health Commission since the end of April. All three confirmed cases have documentation of two doses of MMR vaccine. A diagnosis of mumps should be suspected in anyone presenting with typical symptoms. All suspect or confirmed mumps cases diagnosed in Boston should be reported immediately to the Boston Public Health Commission (BPHC) at 617-534-5611.

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### **BACKGROUND**

Three confirmed cases and eleven suspected cases of mumps in Boston residents have been reported to the Boston Public Health Commission since the end of April. All three confirmed cases have documentation of two doses of MMR vaccine. Symptom onset dates range from 4/17/2013 to 5/3/2013. Two of the three cases and all the suspects are college students. The third case (not a college student) is epi-linked to the others.

### **SYMPTOMS AND DIAGNOSIS**

Mumps is caused by a paramyxovirus which is spread through infected respiratory tract secretions. It can be spread through the air to people within three to six feet when an infected person coughs or sneezes, or with direct contact with infected secretions (e.g. sharing water bottles). The incubation period can range from 12 to 25 days. People are considered infectious from two days before symptoms begin until five days after the onset of parotid swelling.

The classic symptom of mumps is parotitis (swelling of the salivary glands), but non-specific symptoms such as myalgia, anorexia, malaise, headache, and low-grade fever may precede the parotitis by several days. As many as 20% of infections are asymptomatic, and nearly 50% are associated with non-specific respiratory symptoms, with or without parotitis.

Mumps is usually a mild illness, but there can be complications including meningitis, encephalitis, orchitis, oophoritis, mastitis, glomerulonephritis, myocarditis, arthritis, and hearing loss. Mumps may increase the risk of a miscarriage, especially within the first three months of pregnancy.

Diagnostic tests for mumps include viral isolation from culture, a positive polymerase chain reaction (PCR), at least a four-fold increase between acute and convalescent titers in serum IgG, or a single positive IgM (a negative IgM in an immunized person does not rule out disease). Specimens can be collected from blood, urine, or a buccal swab. Buccal swabs should be obtained within nine days of onset of symptoms (ideally within 5 days). The parotid gland area (the space between the cheek and the teeth just below the ear) should be massaged for about 30 seconds prior to obtaining the specimen. A urine sample can be collected up to 15 days after onset of symptoms, but early collection is preferred. Serum for IgM testing should be obtained no sooner than three days after the onset of parotitis.

## **RECOMMENDATIONS**

A diagnosis of mumps should be suspected in anyone presenting with typical symptoms. Health care providers are encouraged to collect serum and urine specimens and a buccal swab for submission to the Hinton State Laboratory Institute for mumps testing. Droplet and standard precautions should be followed when caring for suspect or confirmed cases. Suspect or confirmed mumps cases should not return to school, work, or other public places until five days after parotitis began.

Mumps vaccine is routinely given as part of the MMR vaccine to all children at 12 to 15 months of age, with a second dose given at 4 to 6 years of age. Antibody to mumps develops in about 80% of all susceptible people after a single dose, and protection appears to be long lasting. Administration of MMR is not harmful if given to a person already immune to one or more of the viruses in the vaccine. Serious adverse reactions following MMR administration are rare.

BPHC recommends that health care facilities in Boston determine the mumps immunity status of health care workers and offer vaccination with MMR to those without either serologic proof of immunity or documentation of two doses of MMR.

Health care providers should consider offering MMR vaccine to anyone without evidence of immunity, as indicated by either 1) laboratory evidence of prior mumps infection, 2) birth in the US before 1957 or 3) at least one dose of MMR. A second dose of MMR should be provided to school-aged children, students at post-high school educational institutions, and people in other groups considered to be at high risk of exposure.

## **REPORTING**

Healthcare providers in Boston are required by state and city regulations to report all suspect or confirmed mumps cases to the Boston Public Health Commission (BPHC) at 617-534-5611.