



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

## Clinical Measles Alert

September 3, 2013

### Two confirmed measles cases in Massachusetts in August 2013. Potential exposures at Metrowest Medical Center and Massachusetts General Hospital who could develop illness within the next two weeks

An unvaccinated infant under 12 months of age, visiting from out of state and recently arrived from out of the country, was confirmed to have measles. Onset of rash was on August 20, 2013. A non-US born adult Massachusetts resident, with a recent history of foreign travel and an uncertain vaccination history, was also diagnosed with measles, with a rash onset on August 20, 2013 also. MDPH has been working with healthcare providers, the Boston Public Health Commission, the Framingham Board of Health and other partners to contact individuals who may have been exposed and make recommendations concerning vaccination and quarantine of susceptibles.

**Because of these potential exposures, which number in the hundreds, the Massachusetts Department of Public Health, Bureau of Infectious Disease, encourages healthcare providers in Massachusetts to consider measles in susceptible patients with rash illness who may have been exposed at Metrowest Medical Center in Framingham and Massachusetts General Hospital in Boston, during the last two weeks of August 2013. These individuals would be developing symptoms of measles between now and September 15, 2013.**

#### Management of Patients with Febrile Rash Illness

- Measles is infectious for 4 days before, through 4 days after, onset of rash (day of onset is day 0); a total of nine days.
- Assess and screen all patients with febrile rash illness immediately on arrival.
- Escort patients to a separate waiting area or place them immediately in a private room, preferably at negative pressure relative to other patient care areas.
- Both patients and staff should wear appropriate masks/respirators (masks for patients to prevent generation of droplets, and N95 or higher level of protection respirators for staff to filter airborne particles).
- If not admitted, maintain standard and airborne infection isolation (including while patient is exiting the facility). Patients should be told to remain in isolation at home through 4 days after rash onset.
- Measles virus can remain suspended in the air for up to 2 hours. Therefore, we recommend that the room occupied by a suspect case not be used for 2 hours after the patient's exit.

#### Post-Exposure Control Measures Should Cases be Seen in Healthcare Facilities

- **Identify** all exposed patients and staff, including individuals in the waiting and examination rooms at any time while the index case was present and up to 2 hours after, and all staff both with and without direct patient contact. Due to the airborne route of measles transmission, areas of shared air space well beyond those occupied by the patient may be considered exposed, potentially an entire facility.
- **Assess** all exposed individuals for acceptable evidence of immunity, as outlined in the table below.
- **Vaccinate all susceptibles. Measles vaccine given within 72 hours of exposure may prevent disease.**

#### **NEW:**

- For infants aged 6 through 11 months, MMR vaccine can be administered in place of IG, if administered within 72 hours of exposure. Such infants must receive a normal 2-dose series beginning  $\geq 12$  months.
- HIV infected patients without evidence of current severe immunosuppression can be vaccinated. See the [June 2013](#) ACIP statement regarding measles, mumps and rubella for additional information
- **Provide post-exposure prophylaxis with immune globulin** to susceptible patients at increased risk of severe disease from measles (see below).
- **Exclude all susceptible contacts** from work from day 5 through day 21 after exposure. (If the case is confirmed, even those healthcare staff vaccinated within 72 hours may need to be excluded.)
- **Surveillance** for early identification of secondary cases should be continued for two incubation periods.

## **NEW: Postexposure Prophylaxis with Immune Globulin (IG)**

IG can prevent or modify measles in persons who are nonimmune if given within six days of exposure. There are three groups of patients at increased risk of severe disease from measles: infants <12 months; pregnant women without evidence of measles immunity; and severely immunocompromised individuals. The recommended dose of IG administered intramuscularly (IGIM) is 0.5 mL/kg of body weight (maximum dose = 15 mL) and the recommended dose of IG given intravenously (IGIV) is 40 mg/kg.

- **Recommended use of IGIM in infants <12 months:** IGIM should be administered to all infants aged <12 months who have been exposed to measles. For infants aged 6 through 11 months, MMR vaccine can be administered in place of IG if administered within 72 hours of exposure.
- **IGIV use in pregnant women without evidence of immunity:** IGIV should be administered to pregnant women without evidence of measles immunity who have been exposed to measles. IGIV is recommended to administer doses high enough to achieve estimated protective levels of measles antibody titers.
- **IGIV use in immunocompromised patients:** Severely immunocompromised patients who are exposed to measles should receive IGIV prophylaxis regardless of immunologic or vaccination status because they might not be protected by the vaccine.

Please refer to the [June 2013](#) ACIP statement regarding measles, mumps and rubella for additional information concerning IG and management of immunocompromised people.

The Massachusetts Department of Public Health (MDPH) would also like to remind clinicians of the continued risk of measles, particularly among international travelers (including Western Europe), and urge you to make sure all of your patients and staff are appropriately vaccinated or have a documented positive titer. For children travelling internationally, those 6 to 11 months of age should receive one dose of MMR. Since the immune response to doses given before 12 months of age is variable, these children must receive a normal two-dose series starting at age 12 months.

**Maintaining high coverage with measles, mumps, and rubella (MMR) vaccination remains the most effective way to prevent outbreaks and limit them if they occur.**

### **Acceptable Evidence of Immunity\***

1. Born in the US before January 1, 1957.  
**Exception:** For **health care workers**, year of birth does **not** constitute acceptable proof of immunity. If individuals in these groups do not have serologic proof of immunity, they should have **2 doses** of MMR.
2. Two doses of measles-containing vaccine, given at least 4 weeks apart and beginning at  $\geq 12$  months of age, and the second dose given prior to or within 72 hours of exposure recommended for children, teens, college students, international travelers and healthcare workers and in outbreak settings. (In health care settings, vaccination after exposure will not always guarantee avoiding exclusion.); or
3. Serologic proof of immunity.

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

Note: Adults born in the US in or after 1957 who are not in high risk groups or in outbreaks settings, should have at least 1 dose of MMR

## **Diagnosis**

The collection of clinical specimens for measles testing on all individuals with suspect measles is extremely important. MDPH facilitates free testing at the Hinton State Laboratory (HSLI). Laboratory tests for acute measles include **viral culture of throat or NP swab and urine**, and **serologic testing for measles-specific IgM antibody** on acute serum specimens. Testing at HSLI is preferred over testing at commercial labs, if possible. 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 to the Hinton State Laboratory.

## **Reporting**

Please immediately report all cases or suspect cases of measles to your local board of health and to the MDPH Division of Epidemiology and Immunization at **617-983-6800**. Cases diagnosed in Boston should be reported to the Boston Public Health Commission at 617-534-5611.

## **Resources**

Prevention of Measles, Rubella, Congenital Rubella Syndrome, and Mumps, 2013: Summary Recommendations of the Advisory Committee on Immunization Practices (ACIP). CDC, [Morbidity and Mortality Weekly Report](#), June 14, 2013.

Immunization of Health-Care Personnel, 2011: Recommendations of the Advisory Committee on Immunization Practices (ACIP). CDC, [Morbidity and Mortality Weekly Report](#), November 25, 2011.

[Measles Chapter](#), VPD Surveillance Manual (6<sup>th</sup> Edition), CDC, 2013.

[Measles Chapter](#), The Pink Book (12<sup>th</sup> Edition), CDC, May 2012.

Red Book: 2012 Report of the Committee on Infectious Diseases, 29<sup>th</sup> Edition, American Academy of Pediatrics.