



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

**Clinical Measles Advisory**  
**Updated April 2011**

- 1. Update on Measles in the US and Other Countries**
- 2. Reminder of Immunization and Infection Control Guidelines**

Measles among unvaccinated young children has been recently reported as a national problem (<http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6013a1.htm>). The Massachusetts Department of Public Health (MDPH) would again like to remind clinicians of the continued risk of measles, particularly among travelers. To date, there have been five confirmed cases of measles among Massachusetts residents in 2011; three cases were among travelers, one was a close contact of one of the travelers, and one had an unknown source of infection. In addition, MDPH epidemiologists frequently respond to situations where residents have been exposed to a person infectious with measles while on a plane. Travel outside the US is a risk factor for measles, though sporadic cases in Massachusetts and other states continue to occur. **Maintaining high two-dose coverage with measles, mumps, and rubella (MMR) vaccination remains the most effective way to prevent outbreaks and limit them if they occur.** When cases do occur, strict adherence to control recommendations is critical to prevent transmission.

**MDPH Recommendations for Health Care Providers**

- **Review the immunization status of all patients.** Ensure that all patients are up-to-date with their MMR immunizations, including:
  - **Those with exemptions:** Re-evaluate the status of those with medical or religious exemptions and offer vaccine, as indicated or appropriate.
  - **New! Travelers:**
    - Everyone  $\geq 12$  months of age should receive two doses of MMR at least 28 days apart.
    - Children 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.
- **Review the immunization status of all staff now.** Ensure all health care personnel meet the latest, more stringent criteria for evidence of immunity for measles, mumps, and rubella. Two doses of MMR are now recommended for all age groups (see below).
- **Have a high index of suspicion.** Carefully assess all patients presenting with fever and rash 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 measles can spread quickly, early recognition, diagnosis, and public health intervention are essential.
  - **Vaccination within 72 hours of exposure to measles can prevent disease.**

**Routine Vaccination Recommendations**

Massachusetts law requires immunity to measles, mumps, and rubella (MMR) for school attendance. The law allows only medical or religious exemptions to the MMR requirement. In accordance with MDPH regulations, if there is a case of measles, all students and staff who are exposed, and do not have evidence of immunity, will be **excluded from school day 5 through day 21 after exposure**, including those with medical and religious exemptions.

- **Children.** All children  $\geq 12$  months of age should receive their first dose of 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 measles (see box below). Certain groups at high risk should have received two doses of MMR, such as international travelers, health care workers, and college students.
- **Outbreaks.** During outbreaks, all individuals who received one dose of MMR vaccine should receive a second dose.

### 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. (In health care settings, vaccination after exposure will not always guarantee avoiding exclusion.); or
3. Serologic proof of immunity.

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

### 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, all health care workers, regardless of age, should have 2 doses of MMR.

**New!** **Health care workers born before 1957** should have **2 doses** of MMR (previously, one dose was recommended for this age group) and two doses will be required in an outbreak.

**Health care workers born in or after 1957** should have 2 doses 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. 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. Commercial laboratory results are not acceptable for public health purposes. 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.

### Initial 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).
- 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 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

- **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 above.
- **Vaccinate** all susceptibles. **Measles vaccine given within 72 hours of exposure may prevent disease.**
- **Exclude** all susceptible contacts from work from day 5 through day 21 after exposure. (If the case is confirmed, even those staff vaccinated within 72 hours should be excluded.)
- **Surveillance** for early identification of secondary cases should be continued for two incubation periods.

**Reporting** Please 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**.