



February 2015

To: Providers, Hospitals, Emergency and Primary Care Departments, and Local Health Departments
From: New York State Department of Health, Bureau of Immunization

HEALTH ADVISORY: MEASLES PREVENTION AND CONTROL IN NEW YORK STATE

Please distribute to the Chief Medical Officer, Infection Control Department, Infectious Disease Department, Director of Nursing, Emergency Department Director, Primary Care Clinic Directors, Director of Risk Management/Quality Improvement, Director of Pharmacy, and all patient care areas.

SUMMARY

- During 2014, a total of 644 cases of measles were reported to the Centers for Disease Control and Prevention (CDC). This is the greatest number of cases since measles elimination in 2000. Twenty three outbreaks represent 89% of the reported cases in 2014. From January 1 to January 30, 2015, 102 people from 14 states were reported to have measles. The majority of the 2015 cases are part of a large, ongoing outbreak linked to Disneyland Resort Theme Parks in California.
- New York State (NYS), outside of New York City (NYC), reported five confirmed measles cases in 2014 and one in January of 2015. In 2014, NYC reported 27 confirmed measles cases; two have been reported in 2015. Hundreds of suspect illnesses are investigated annually and ruled out by local health departments.
- The large number of recent cases nationwide emphasizes the need for health-care providers to have a heightened awareness of the potential for measles in their communities, and the **importance of providing vaccination at the earliest recommended age to prevent measles.**
- Measles is a highly contagious, acute viral illness that can lead to serious complications and death. Although measles elimination was declared in the United States (U.S.) in 2000, importation of measles cases from endemic areas of the world continue to occur, leading to secondary measles cases and outbreaks in the U.S., primarily among unvaccinated persons.
- **Travelers with measles infection continue to bring the disease into the United States.** Although high rates of immunity throughout the U.S. and NYS prevent the spread of measles from most importations, vaccination rates vary geographically, and unvaccinated individuals tend to cluster, increasing the risk for outbreaks. It is critical to maintain high measles, mumps, and rubella (MMR) vaccination coverage (at least 90%, but preferably higher) to prevent large measles outbreaks. High coverage rates also protect and limit spread to infants too young to be vaccinated and to persons who cannot be vaccinated because of medical contraindications.
- To expedite public health containment strategies, health-care providers should ensure that their patients are protected from measles, **maintain a high index of suspicion for measles infection**, implement appropriate infection control measures when measles is suspected, and **report immediately to the local health department (LHD)** where the patient resides.

MEASLES EPIDEMIOLOGY

Measles can be severe and is highly infectious; following exposure, up to 90% of susceptible persons develop measles. It is spread by airborne contact with an infected person through coughing and sneezing. Measles virus can remain active and contagious for up to 2 hours in the air or on surfaces. From exposure to rash onset averages 14 days with a range of 7 to 18 days. Persons with measles are infectious from 4 days before to 4 days after rash onset.

CLINICAL FEATURES

Measles is characterized by a prodrome of fever (101–105 degrees F) followed by cough, coryza, and/or conjunctivitis. An erythematous, maculopapular rash presents 2–4 days later and lasts 3 days. It usually starts on the face and proceeds down the body to involve the extremities last, including the palms and soles. The rash is usually discrete but may become confluent on the upper body; it resolves in the same order that it appeared. Koplik's spots (punctate blue-white spots on the bright red background of the buccal mucosa) may be present, often before the rash develops, but are often not seen and are not required for the diagnosis of measles.

REPORTING DETAILS

Health care providers should increase their index of suspicion for measles in clinically compatible cases. The LHD should be notified of any suspect case immediately. Reports should be made at the time of initial clinical suspicion. If the diagnosis of measles is being considered and diagnostic testing for measles is ordered, then the case should be reported at that time. LHDs should also be notified of discharge plans from the health care setting. This is especially important if the case lives in a multifamily dwelling, dormitory, group home or has young children at home.

INFECTION CONTROL

Measles is spread via airborne transmission and direct contact with infectious droplets. Cases of fever and rash illness should immediately be placed in airborne isolation. If an airborne infection isolation room is not available, then the exam room used to isolate a suspect measles case should not be used for 2 hours after the case leaves the room and the number of people entering and leaving should be minimized. When transporting a patient through the hospital, the patient should be masked. If possible, elevators and corridors should not be used for two hours after the patient has passed through them. If possible, any procedures required for the patient should be performed in the patient's room or delayed until the patient is no longer infectious.

LABORATORY TESTING

Viral specimens (throat or nasal-pharyngeal swab and urine) and serology should be obtained for diagnostic testing and confirmation. Use of commercial laboratories for measles testing may take up to a week to obtain results. **Reporting suspected cases of measles enables access to rapid testing through the NYS Wadsworth Center Laboratory.** The LHD can assist in arranging testing at the Wadsworth Center Laboratory. Viral specimens that result in a positive PCR or culture will be forwarded to CDC for confirmation and genotyping.

MEASLES POST-EXPOSURE PROPHYLAXIS (PEP)

The successful initiation of measles PEP requires rapid intervention. LHDs can assist with the proper PEP recommendations and infection control measures. Measles vaccination should be administered to susceptible contacts of a measles patient within 72 hours of exposure and may offer protection. Immune globulin is indicated for susceptible household or other close contacts of patients with measles, particularly those contacts younger than 1 year of age, pregnant women and/or immunocompromised persons, for whom risk of complications is highest. Immune globulin should be given within 6 days of exposure to prevent or lessen the severity of measles.

MEASLES PREVENTION THROUGH VACCINATION

- MMR vaccination is recommended for all children, with the first dose given at age 12 – 15 months, and a second dose at age 4 – 6 years. **Vaccination should be provided at the earliest opportunity based on the Advisory Committee on Immunization Practices (ACIP) recommended schedule.** Catch-up vaccination is recommended for children and adolescents who have not received two appropriately spaced doses. Unless they have other evidence of immunity,

adults should receive at least one dose of MMR vaccine, and two appropriately spaced doses of MMR vaccine are recommended for health-care personnel, college students, and international travelers.

- **All travelers of any age with destinations outside the U.S. should be up to date on their immunizations prior to travel. Infants 6 – 11 months of age who are traveling outside of the U.S. should receive one dose of MMR vaccine prior to travel.**

VACCINE RECOMMENDATIONS

Children ≥ 12 months, Adolescents, and Adults

- All children should receive an MMR vaccine at 12 – 15 months of age. The second dose of MMR is routinely administered at age 4 – 6 years typically before entering kindergarten, but may be administered as soon as 28 days after the first dose. **Vaccination should be provided at the earliest opportunity** based on the ACIP recommended schedule.
- Children over one year of age who have received one dose of MMR vaccine and who have recently been exposed to measles infection or are planning travel outside the U.S. should receive a second dose as soon as possible, as long as 28 days have passed since the first dose. Second doses of MMR are valid as long as they are administered after 12 months of age and at least 28 days after the first dose was administered.
- Anyone who has received two valid doses of MMR, or other live measles-containing vaccine, is considered immune to measles. Documentation of laboratory evidence of immunity, or having been born before 1957 are also accepted as proof of immunity to measles. Anyone who lacks proof of measles immunity, as defined above, should receive at least one dose of MMR vaccine. Two appropriately spaced doses of MMR vaccine are recommended for health-care personnel, college students, and international travelers.

Children 6–11 months of age who are traveling outside the U.S.

- Should receive one dose of MMR vaccine prior to international travel.
- MMR vaccine given before 12 months of age should not be counted as part of the routine series. Children who receive MMR vaccine before age 12 months will need two more doses for a total of three doses, the first of which should be administered at 12 – 15 months of age and the second at least 28 days later (typically at age 4 – 6 years or before beginning kindergarten).

ADDITIONAL INFORMATION

- Complete information on MMR vaccine recommendations: <http://www.cdc.gov/mmwr/pdf/rr/rr6204.pdf>
- 2015 Immunization Schedules: <http://www.cdc.gov/vaccines/schedules/>
- The NYSDOH Measles Fact Sheet is available at: http://www.health.ny.gov/diseases/communicable/measles/fact_sheet.htm
- Destination specific travel immunization information is available on the CDC and Prevention’s Travelers’ Health website at: <http://wwwnc.cdc.gov/travel/destinations/list>
- For additional information on measles outbreak control measures, clinical presentation and diagnostic tests please refer to the CDC website at: <http://www.cdc.gov/vaccines/pubs/surv-manual/chpt07-measles.html>
- The NYSDOH Outbreak Control Manual is available at: http://www.health.ny.gov/prevention/immunization/providers/outbreak_control_guidelines.htm
- CDC Measles Cases and Outbreaks: <http://www.cdc.gov/measles/cases-outbreaks.html>
- CDC Measles Elimination: <http://www.cdc.gov/measles/about/faqs.html#measles-elimination>
- For further information, please contact your local health department or the New York State Department of Health, Bureau of Immunization at 518 – 473 – 4437 or the New York City Department of Health and Mental Hygiene at 347-396-2400.
- County Health Department contact information: <http://www.nyscho.org/i4a/pages/index.cfm?pageid=3713>