



NEW YORK CITY DEPARTMENT OF
HEALTH AND MENTAL HYGIENE
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Commissioner

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ALERT # 6: Measles in New York City

- 1) **Ten cases of measles have been reported in NYC since January 1, 2011. Three had no travel history or known exposure; seven travelled internationally to Europe and Asia.**
- 2) **Consider measles in all patients with clinically compatible febrile rash illness.**
- 3) **Institute immediate airborne precautions for patients with febrile rash illness.**
- 4) **Immediately report clinically suspect cases of measles (prior to laboratory confirmation) to the NYC Department of Health and Mental Hygiene (DOHMH) at 212-676-2288 (weekdays 9-5 pm) or Poison Control 212-764-7667 after hours.**
- 5) **Collect specimens for diagnostic testing. Contact NYC DOHMH to make arrangements for laboratory testing.**
- 6) **Ensure that patients are immune to measles prior to international travel. Vaccinate children aged 6-12 months with measles-mumps-rubella (MMR) vaccine prior to international travel.**
- 7) **Ensure all health care workers are immune to measles.**

Distribute to All Primary Care, Infectious Disease, Emergency Medicine, Internal Medicine, Pediatrics, Family Medicine, Laboratory Medicine and Infection Control Staff

Dear Colleagues,

Ten cases of measles have been reported in NYC since January 1, 2011. Three cases were adults with no travel history or known exposures, suggesting unrecognized exposures and secondary spread. The other seven people had travelled to the United Kingdom, France, Romania, India, Pakistan, China, and Jordan. Two cases who travelled were unvaccinated children aged 9 months and 2 years. The others were adults aged 27-46 years. Among these adults, one was known to be unvaccinated and the others did not have documentation of their vaccination status but thought they had been vaccinated.

Measles continues to be endemic in most of the world. U. S. residents who travel overseas without being vaccinated risk becoming sick with measles after they return. In the U.S., a higher number of measles cases have been reported so far this year than last year, including 111 cases and 9 outbreaks. As in NYC, most cases reported in the U.S. were associated with international travelers.

In nine of the NYC cases, delays in considering the diagnosis of measles and in instituting airborne isolation led to over 1,000 individuals being exposed in NYC. Measles is among the most contagious of diseases. While most of the population is immune, these exposures put non-immune individuals at risk for becoming infected, particularly young children and the immunocompromised who are at highest risk for severe complications.

Clinical Presentation

It is important that providers consider measles when evaluating patients with febrile rash illness. Measles presents clinically, in both adults and children, as an acute viral illness characterized by fever (>101°F) and generalized macular papular rash. The prodrome may include fever, cough, coryza, and conjunctivitis. Koplik's spots (punctate blue-white spots on the buccal mucosa) are rarely seen. The rash lasts 5-6 days, usually starts on the face and proceeds down the body, including the palms and soles, and is usually discrete but may become confluent. Complications may include diarrhea, otitis media and pneumonia and encephalitis, and may lead to death.

Transmission and Infection Control

Measles is transmitted via airborne droplets and through direct contact with the respiratory secretions of an infected person. Infected individuals are contagious from four days prior to rash onset through the fourth day after rash appearance. Suspect cases should be placed on airborne isolation immediately. If a negative pressure room is not available, place the suspect case in an exam room with a mask. No susceptible individuals should be allowed in that room for 2 hours after the patient has left.

Reporting

Suspected cases of measles should be reported immediately to the NYC DOHMH at 212 676-2288 (weekdays 9 am to 5 pm) or to Poison Control: 212-764-7667 (after hours and weekends). Reports should be made at time of initial clinical suspicion. If you are considering the diagnosis of measles and are ordering diagnostic testing then you should report the case at that time.

Laboratory Testing

A positive measles IgM titer is sufficient for confirming the diagnosis. Specimens collected within the first 72 hours after rash onset may be falsely negative for measles IgM and should be repeated prior to excluding the diagnosis. The IgM remains positive for about one month after rash onset; the IgG response persists for years. Most measles IgM testing in NYC is sent to outside laboratories and may take up to a week for results. Reporting suspected cases of measles enables access to rapid testing through the NYC DOHMH Public Health Laboratory. Collect blood in red, red-speckled or gold-top blood collection tubes, and if possible, centrifuge and separate. The bloods can be refrigerated overnight. In clinically compatible cases the NYC DOHMH can arrange for PCR and viral culture testing from nasopharyngeal aspirates, nasopharyngeal swabs, or throat swabs. Swabs should be synthetic (non-cotton) in liquid, viral transport media. Refrigerate specimens after collection and transport on ice.

Post-Exposure Prophylaxis

For non-immune individuals who are eligible for vaccination, MMR should be administered within 72 hours of exposure as post-exposure prophylaxis to prevent disease. Susceptible individuals exposed to measles who are at high-risk for complications (children less than 1 year of age, pregnant women and immunocompromised persons) should be given immune globulin (IG) rather than vaccine as post-exposure prophylaxis. IG may be given within 6 days of exposure to prevent or modify measles. Those who received 1 dose of measles-containing vaccine prior to exposure should receive a second dose, provided it has been at least 28 days since the previous dose. The recommended dose for IG is 0.25mL/kg of body weight intramuscularly; immunocompromised persons should be given 0.50 mL/kg. The maximum dose is 15mL. Use of IG may require a delay in vaccination of infants when they reach 1 year of age (www.cdc.gov/mmwr/preview/mmwrhtml/rr5102a1.htm#tab4).

Evidence of Immunity

- Immunity to measles includes: documented receipt of two measles containing vaccines, a positive measles IgG titer, or birth prior to 1957. Self-reported vaccination does not constitute evidence of immunity.
- All health-care providers are required to have documented evidence of immunity to measles. Consider administering 2 doses of MMR to unvaccinated healthcare workers born prior to 1957 who lack laboratory evidence of measles immunity.
- MMR is routinely recommended to children at 12 months of age with a second dose at 4-6 years of age. A second dose can be administered as early as 28 days after a previous dose. MMR is contraindicated in immune compromised individuals and pregnant women as well as those who have a history of previous severe allergic reaction to a previous dose of MMR or vaccine components. Allergy to eggs is **NOT** considered a contraindication to MMR vaccine. Women who are breastfeeding may receive MMR vaccine.

Travel recommendations

Providers should assure that adults and children aged greater than 12 months who are traveling outside the U.S. have documented immunity to measles. Adults who believe they received their childhood vaccinations but who do not have documented immunity to measles should be vaccinated against measles prior to travel. Children between six and twelve months of age who will be travelling internationally are also recommended to receive a dose of MMR vaccine prior to travel, although this dose does not count towards completion of the routine schedule.

Treatment

In general, supportive measures are sufficient. Vitamin A supplementation may be considered for children 6 month to 2 years of age hospitalized for measles.

In summary:

- 1) **Consider measles as a diagnosis when evaluating patients with febrile rash.**
- 2) **Institute immediate airborne precautions.**
- 3) **Report suspect measles cases immediately (Don't wait for laboratory confirmation) to the NYC DOHMH: 212-676-2288 or after hours: Poison Control 212-764-7667.**
- 4) **Obtain appropriate clinical specimens for diagnostic testing.**
- 5) **Offer measles post-exposure prophylaxis to susceptible exposed contacts.**
- 6) **Vaccinate persons travelling internationally if they do not have documented immunity to measles.**

Please call the NYC DOHMH if you have questions (business hours: 212-676-2288; after hours, contact the Poison Control Center at 212-764-7667). As always, your cooperation is appreciated.

Sincerely,

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