



NEW YORK CITY DEPARTMENT OF  
HEALTH AND MENTAL HYGIENE  
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*Acting Commissioner*

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## **ALERT # 38: Measles Outbreak in New York City in the Orthodox Jewish Community**

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

- 1) Six individuals with measles were confirmed in October in the Orthodox Jewish community of Williamsburg, Brooklyn.**
- 2) The initial individual was an unvaccinated child who acquired infection while traveling in Israel.**
- 3) Screen for rash with fever at the point of entry of a healthcare facility and immediately institute airborne precautions to prevent healthcare-associated exposures.**
- 4) Report all patients with suspected measles immediately to the Health Department. Do not wait for laboratory confirmation.**
- 5) Collect specimens on all patients with suspected measles for testing at the Health Department's Public Health Laboratory.**
- 6) Healthcare providers caring for the Orthodox Jewish community in Williamsburg should actively recall for MMR vaccination all patients aged 12 months and older who are unvaccinated. The second dose of MMR may be given earlier than age 4 years, provided it has been at least 28 days since a previous dose of MMR, varicella or live intranasal influenza vaccine.**
- 7) Vaccinate infants aged 6 to 11 months and all unvaccinated children 12 months of age and older and adults with MMR prior to international travel.**

Dear Colleagues,

Six individuals confirmed with measles have been reported to the New York City (NYC) Department of Health and Mental Hygiene (DOHMH) this month. All individuals are members of the Orthodox Jewish community in Williamsburg, Brooklyn. A significant number of exposures occurred and additional persons with measles are expected to be identified. Individuals ranged in age from 11 months to 4 years. Five of the individuals were unvaccinated prior to exposure, including four because vaccination was delayed. One individual was too young to have received MMR. The fifth child had received one dose of MMR prior to exposure but was not immune (IgG negative). Complications include one child who was hospitalized with pneumonia and another child with otitis media. The initial and most recent individuals acquired measles while visiting Israel, where a large outbreak is currently occurring. The initial child developed a rash on September 30<sup>th</sup>. Additionally, there are seven confirmed individuals with measles among New York State residents outside of NYC: five individuals acquired measles while in Israel, and two are individuals infected from exposure to a person with measles.

Measles is one of the most contagious infectious diseases. Even one person with measles puts non-immune individuals at risk for becoming infected, particularly young children, the immunocompromised, and non-immune pregnant women, all of whom are at highest risk for severe complications.

### **Transmission and Infection Control**

A large number of exposures have occurred in healthcare facilities including in emergency departments, an inpatient facility and outpatient clinic settings. Measles is transmitted by airborne particles, droplets, and direct contact with the respiratory secretions of an infected person. Infected individuals are contagious from four days before rash onset through the fourth day after rash appearance. It is imperative that all patients are screened for rash with fever at the point of entry of a healthcare facility and immediately be placed in negative pressure rooms for airborne precautions to prevent exposures. If a negative pressure room is not available, place the patient with suspected measles in an exam room with a mask and do not use that room for 2 hours after the patient has left. Any unvaccinated child in the facility at the same time as the patient with suspected measles should be vaccinated **BEFORE** they leave the facility.

Parents of ill children should keep them home and they should not attend daycare or school. If there is measles in a student of a daycare or school, all unvaccinated children, including those with a medical or religious exemption, will be excluded and will be unable to attend the daycare or school for 21 days after the last exposure.

### **Clinical Presentation**

Always consider measles when evaluating patients with fever and rash. Measles typically presents in adults and children as an acute viral illness characterized by fever and generalized maculopapular rash. The prodrome may include cough, coryza, and conjunctivitis. Koplik's spots (punctate blue-white spots on the buccal mucosa) are occasionally seen. The classic rash usually starts on the face, proceeds down the body, and may include the palms and soles, and appears discrete but may become confluent. The rash lasts several days. A person who had some degree of immunity to measles prior to infection (e.g. babies <1 year who passively acquired some maternal antibody and previously vaccinated persons who had waning immunity) may have more mild symptoms and certain classic symptoms may be absent. Complications may include diarrhea, otitis media, pneumonia, hepatitis, encephalitis, miscarriage and premature birth in pregnancy, and death. Long-term complications include subacute sclerosing panencephalitis, a very rare, but fatal disease of the central nervous system that results from measles virus infection earlier in life.

### **Reporting**

Persons suspected to have measles should be reported **IMMEDIATELY** to the Department of Health and Mental Hygiene (DOHMH) at 866-692-3641. **Reports should be made at time of initial clinical suspicion. Do not wait for laboratory confirmation to report.** If you are considering the diagnosis of measles and are ordering diagnostic testing, then you should report the individual at that time.

### **Laboratory Testing**

Collect venipuncture blood for measles IgM and IgG, and a nasopharyngeal or throat swab for measles PCR. When you call DOHMH to report the patient suspected to have measles, we will

arrange pick-up and transport of the specimens to the DOHMH laboratory. Measles IgM results from blood specimens collected within the first 72 hours after rash onset may be falsely negative and may need to be repeated before excluding the diagnosis. The IgM remains positive for about one month after rash onset. Reporting suspected patients with measles to the DOHMH enables access to rapid testing. **Collect blood in serum separator tubes (red, red-speckled, or gold-top tops), and if possible, centrifuge and separate. Swabs should be synthetic (non-cotton) in liquid, viral transport media. Refrigerate specimens after collection and transport on ice.**

### **Post-exposure Prophylaxis**

Non-immune individuals aged 6 months and older should receive MMR vaccine within 72 hours of the initial exposure to prevent disease unless they have a contraindication to vaccination. MMR given to infants aged 6 to 11 months will not count as a valid dose in future considerations on immunizations status; such infants will need to be revaccinated at age 12 months, as long as 28 days has passed since the last dose. Persons who received 1 dose of measles-containing vaccine before exposure should receive a second dose, provided it has been at least 28 days since a previous dose of MMR, varicella or live intranasal influenza vaccine.

Immune globulin (IG), not MMR vaccine, should be given as post-exposure prophylaxis to nonimmune individuals who are exposed to measles and at high-risk for complications, including: infants aged <6 months, infants aged 6 to 12 months who did not receive MMR within 72 hours of exposure, pregnant women who are not immune to measles, and severely immunocompromised persons, regardless of immunologic or vaccination status because they might not be protected by MMR vaccine. IG should be given as soon as possible and no later than 6 days after exposure to prevent or modify measles. The recommended dose for IG for infants aged <12 months is 0.5 mL/kg of body weight given intramuscularly (IGIM) (maximum dose = 15mL). Pregnant women not immune to measles and immunocompromised persons should receive 400 mg/kg of IG given intravenously (IGIV). Administration of MMR or varicella vaccines needs to be delayed by 6 months after the administration of IGIM and by 8 months after IGIV.

**Exposed people who are not immune to measles and who do not receive post-exposure prophylaxis must stay home through 21 days after last exposure, during the time that they are at risk for getting sick and being contagious. Because IG prolongs the incubation period, people who receive IG must stay home through 28 days after last exposure.**

### **Evidence of Immunity**

Presumptive evidence of 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 for children at 12 months of age with a second dose at 4 to 6 years of age (two doses are required to attend kindergarten through grade 12, and one dose is required for daycare, nursery school, Head Start and pre-K). Do not delay. Healthcare providers caring for the Orthodox Jewish community in Williamsburg may consider administering an additional, early dose of MMR vaccine to patients aged 6 to 11 months who are likely to come into contact with measles virus. Providers should actively recall for MMR all patients aged 12 months and older who are unvaccinated. The second dose of MMR may be

given earlier than age 4 years, provided it has been at least 28 days since a previous dose of MMR, varicella or live intranasal influenza vaccine. If you need assistance with generating a list of unvaccinated patients using the Citywide Immunization Registry, please contact the Bureau of Immunization at 347-396-2400 or e-mail the address provided below.

MMR is contraindicated in immunocompromised individuals and all 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.

For providers enrolled in the Vaccines for Children (VFC) program serving the Orthodox Jewish community, please make sure you have an adequate supply of MMR vaccine on hand. If you need more vaccine, place your order through the On-line Registry as you normally do. If you need an expedited shipment or need assistance with ordering MMR vaccine, please call 347-396-2405 or e-mail [nycimmunize@health.nyc.gov](mailto:nycimmunize@health.nyc.gov).

### **Travel recommendations**

Providers should ensure 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 6 and 11 months of age who will be travelling internationally are also recommended to receive a dose of MMR vaccine before travel, although this dose does not count towards completion of the routine schedule. The dose will need to be repeated at 12 months of age, as long as 28 days have passed since the prior dose. In addition to the large outbreak currently going on in ultra-Orthodox Jewish communities in Israel, there are large outbreaks in Europe; in the first six months of 2018, over 41,000 individuals with measles and 37 deaths have been reported. Countries most affected include Serbia, Ukraine, Georgia, Greece, Romania, Italy, France, Slovakia, Russia and the United Kingdom, although all countries in Europe have reported persons with measles. There are also outbreaks in many other parts of the world, including countries in Asia, South America, and Africa.

### **Treatment**

In general, supportive measures are sufficient. Vitamin A may be administered to children who are hospitalized for measles (see dosing for measles at [www.redbook.solutions.aap.org](http://www.redbook.solutions.aap.org)).

Contact DOHMH at 866-692-3641 if you have questions or to report a suspected patient with measles. For immediate consultation regarding a patient, you can also call 347-396-2402 during business hours. For more information, visit [www.nyc.gov/health](http://www.nyc.gov/health) and search for “measles.” As always, your cooperation is appreciated.

Sincerely,

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