

Measles Guidance for Providers

Clinical Presentation

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 rash usually starts on the face, proceeds down the body, may include the palms and soles, and appears discrete but may become confluent and 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 or certain classic symptoms may be absent. Complications may include diarrhea, otitis media, pneumonia, hepatitis, encephalitis, and death.

Transmission and Infection Control

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 (9 days total). Patients should be screened for rash with fever at the point of entry into a healthcare facility and 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 and do not use that room for 2 hours after the patient has left.

Laboratory Testing

Collect blood for measles IgM and IgG, and collect a nasopharyngeal or throat swab for measles PCR. When you call DOHMH to report the suspected case, 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 among unvaccinated individuals. Reporting suspected cases of measles to the DOHMH enables access to rapid testing. Collect blood in a serum separator tube (SST, red-speckled, or gold-top blood collection tubes), and if possible, centrifuge and separate. Swabs should be synthetic (e.g. Dacron, Copan, or rayon, NOT cotton); to collect, insert swab into nostril (swab should reach depth equal to distance from nostril to outer ear opening). Leave swab in place for several seconds. Slowly remove swab while rotating. Swab both nostrils with same swab. Place swab in liquid, viral transport media. Refrigerate blood and swab after collection; transport on ice.



Reporting

Report suspected cases of measles immediately to the DOH (866-692-3641) 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 report the case at that time.

Post-exposure Prophylaxis

Non-immune individuals exposed to measles who are aged 6 months and older and who are eligible for vaccination should receive MMR vaccine within 72 hours of initial exposure to prevent disease. MMR given to infants aged 6 to 11 months will not count as a valid dose; such infants will need to be revaccinated at age 12 months, as long as 28 days has passed since the last dose of another live vaccine. 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 the previous dose of another live 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 initial exposure, pregnant women who are not immune to measles and severely immunocompromised persons. 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 = 15 mL). 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. Persons placed on home isolation for either reason should receive the respective 'Patient Instruction sheets' at: www1.nyc.gov/site/doh/providers/health-topics/measles.page.

Evidence of Immunity

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

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 12 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.

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).

Resources

Additional resources can be found at: www.nyc.gov/html/doh/html/diseases/immmea-hcp.shtml

Images of Measles



Photos obtained from CDC Public Health Image Library