CITY OF SAN ANTONIO
METROPOLITAN HEALTH DISTRICT

TEXAS Health and Human Services | Texas Department of State Health Services

Health Advisory: Measles
February 7, 2019

Background:
Measles outbreaks have recently been reported in several parts of the country: Washington State, New York City, and New York State. In Texas, there have been 6 confirmed cases reported in Harris, Galveston, Montgomery and Bell counties in the last month. Bexar County has not had any confirmed cases of measles reported this year.

Measles is highly contagious and if one person has it, 9 out of 10 people around that person will also become infected if they are not yet vaccinated. Measles can be dangerous, especially for babies and young children and prevented through the combination MMR (measles, mumps, and rubella) vaccine.

Measles is an airborne virus that lives in the nose and throat mucus of an infected person. It can be spread to others when an infected person coughs or sneezes. Measles virus can remain infectious in the air for up to 2 hours after an infected person leaves an area. The incubation period averages 10-12 days from exposure to prodrome and 14 days from exposure to rash onset (range 7 - 21 days). Measles is most communicable during the 4 days preceding rash onset up to 4 days after rash onset.

The prodrome generally lasts 2-4 days and is characterized by fever, increasing in stepwise fashion and often peaking at 103°-105°F. Fever is followed by cough, coryza, and/or conjunctivitis. Koplik spots, while not always present, are considered to be pathognomonic for measles and appear as punctate blue-white spots on the bright red background of the buccal mucosa, occurring 1-2 days before rash onset to 1-2 days after. The measles rash is a maculopapular eruption that begins at the hairline and gradually proceeds to the face and upper neck and from there downward and outward. The maculopapular lesions are generally discrete but may become confluent. Other symptoms of measles include anorexia, diarrhea (especially in infants), and generalized lymphadenopathy. Complications can include otitis media, pneumonia, encephalitis, seizures, and death.

Any individuals presenting with these symptoms should be immediately isolated under airborne precautions. Individuals are contagious from 4 days before onset of rash to 4 days after appearance of rash (day of rash onset is day 0). Individuals that report exposure to measles and have any of the symptoms above should be evaluated for measles, even if the rash is not yet present (i.e., fever and respiratory symptoms).

Though rare, vaccinated individuals can develop measles and be infectious. Vaccinated individuals may have an atypical clinical presentation such as: shorter rash duration; atypical rash presentation; and lack of fever, cough, coryza or conjunctivitis.

Infection Control:
Individuals are contagious from 4 days before onset of rash to 4 days after appearance of rash (day of rash onset is day 0). Any individual suspected of having measles should be immediately isolated under airborne precautions and evaluated to avoid additional exposures and not be left in a waiting room to avoid additional exposures. Any room the patient was in should be closed off and not used by others for at least 2 hours as the virus can remain in the air once the person leaves the room.

Vaccination:
All individuals should be kept current with measles vaccination. Check the vaccination history of all patients and offer vaccine to anyone that is not up-to-date. Maintaining high 2-dose community coverage with MMR vaccination remains the most effective way to prevent outbreaks. CDC recommends all children get 2 doses of MMR (measles-mumps-rubella) vaccine: the first dose at 12 through 15 months of age and the second dose at 4 through 6 years of age. It is not recommended for children less than 12 months of age to receive the MMR vaccine.

Healthcare Worker Immunity:
All healthcare facilities should ensure that they have updated documentation of measles immunity status for all staff—not just healthcare providers. Documentation of immunity includes written record of receipt of 2 MMRs, positive serological titers, or birth prior to 1957 (although healthcare facilities should consider vaccinating unvaccinated personnel born before 1957 that do not have laboratory evidence of measles immunity).

During an outbreak of measles, unvaccinated healthcare workers regardless of birth year who lack laboratory evidence of immunity should receive 2 doses of MMR vaccine. Exclude healthcare personnel without evidence of immunity from duty from day 5-21 after last exposure, regardless of post-exposure prophylaxis.

Laboratory Testing:
Testing for measles should be done only in patients meeting the following criteria: (1) Generalized rash lasting >3 days **AND** (2) Fever >101°F (38.3°C) **AND** (3) Cough, coryza or conjunctivitis. Testing should also be considered in persons who have been exposed or traveled to an area where measles is endemic and who have a rash-fever illness.

Specimens to collect:

- Blood specimen for serology (IgM and IgG testing) is ideally collected 3 days after rash onset.
- Throat or nasopharyngeal swab for viral culture or PCR should be collected at the first contact with a suspected measles case. Currently, PCR testing is only available through public health laboratories.

Immediately contact your local health department to coordinate submission for testing.

Exclusion Guidelines:
Individuals suspected of having measles should be instructed to stay home from work, school, daycare and any public outings (e.g., church, grocery store) until 4 days after rash onset have passed. People that have been exposed to measles who are not immune and did not receive post-exposure prophylaxis (PEP) should be advised to stay home from day 5-21 after exposure.

Post-exposure Prophylaxis (PEP) Recommendations:

Risk Factor	Time from first exposure	
	< 72 hours	**72 hours through day 6**
Infant less than 6 months old	Give intramuscular IG: 0.5 mL/kg	Give IGIM: 0.5 mL/kg
Infant age 6 through 11 months	Give MMR vaccine if no contraindications	Give IGIM: 0.5 mL/kg
Susceptible pregnant woman	Give IGIV: 400 mg/kg	Give IGIV: 400 mg/kg
Severely immunocompromised	Give IGIV: 400 mg/kg	Give IGIV: 400 mg/kg
Susceptible close contact over 1 year old	Give MMR vaccine if no contraindications	Give IGIM: 0.5 mL/kg of body weight—for those ≥66 pounds, 15 mL is the maximum dose

Anyone that receives IG should not receive a live virus vaccine (MMR or varicella vaccine) for at least 6 months.

Reporting:
Healthcare providers should immediately report **all suspected cases of measles by phone** to the appropriate local health department:

Bexar County Residents:
San Antonio Metropolitan Health District
Epidemiology Program
Phone: (210) 207-8876
Fax: (210) 207-8807

Residents of Other Counties:
Texas Department of State Health Services
Public Health Region 8
Phone: (210) 949-2121
Fax: (210) 692-1457