



**CITY OF PHILADELPHIA
DEPARTMENT OF PUBLIC HEALTH
DIVISION OF DISEASE CONTROL**

MEASLES

What is measles?

Measles is a highly contagious acute viral disease that affects only human beings. The last nationwide measles epidemic occurred from 1989 through 1991 when over 55,000 measles cases and roughly 135 deaths were reported in the United States, with over 1,700 cases and 9 deaths in Philadelphia.

What are the symptoms of measles?

Initial symptoms last 2 – 4 days and include a progressively high fever peaking at 103° - 105°F, cough, runny nose and red, watery eyes. As the fever peaks and breaks, a red, bumpy rash appears first at the hairline, then spreads to the face and neck, and then spreads downward and outward, ending on the hands and feet. This rash usually occurs over a 5 to 6 day period from first appearance to fading. Other symptoms may include white spots on the inside of the mouth and gums, diarrhea, swelling of the glands in the neck and groin, and loss of appetite.

How is measles spread?

Infection with measles occurs when a susceptible (non-immune) person has direct contact with the mucus or saliva (droplets) of a person infected with measles. Less commonly, transmission can occur through contact with airborne infectious droplets.

How soon after infection do symptoms appear?

Initial symptoms (fever, cough, etc) appear 8-12 days after infection, with a range of 5-16 days. On average, the rash appears 14 days after infection, with a range of 7-18 days.

When and for how long is a person able to spread measles?

An infected person is able to transmit measles from 1-2 days before the onset of the fever (3-5 days before onset of the rash) until 4 days after the appearance of the rash.

Who gets measles?

Measles only exists in humans and is highly infectious (9 out of 10 susceptible persons in close contact with an infectious person – such as school or house mates – develop measles themselves). Before the licensure of measles vaccine in 1963, at least 90 percent of persons developed the disease by 15 years of age and, approximately 500,000 cases and 500 deaths due to measles were reported annually in the United States. Today, measles is rare in the U.S. due to the high vaccination rate with measles vaccine. Non-vaccinated children are at highest risk of developing measles.

Does past infection with measles make a person immune?

Yes. Measles infection results in lifelong immunity.

What are the complications associated with measles?

Approximately one of every three reported measles cases has at least one or more complications. Complications of measles are more common among children less than five years and adults over 20 years of age, and include diarrhea, ear infections and pneumonia. Among the most serious complications of measles, encephalitis (acute swelling of the brain) occurs in 0.1% of cases with 15% of these cases resulting in death and 25% of post-measles encephalitis cases resulting in permanent brain damage. The overall death rate from measles is 1-2 per 1,000 cases. Pregnant women infected with measles experience relatively higher rates of miscarriage, premature labor, and low-birth-weight babies. Measles in persons whose immune systems are compromised by disease may result in more severe and longer periods of symptoms and infectiousness.

Is there a vaccine for measles?

Yes. A vaccine to protect against measles was first licensed in the U.S. in 1963. It is recommended for most persons 12 months of age and older who have never had measles. (Some persons with severe allergies to vaccine ingredients and pregnant women should not receive the vaccine. Ask your doctor or nurse for additional information about the measles vaccine.) Measles vaccination consists of 2 doses, separated by at least 28 days. Susceptible children are recommended to receive the first dose at 12-15 months of age and their second dose of vaccine prior to elementary school entry (or at 4 – 6 years of age). While most adults born before 1957 have natural immunity to measles from having had the disease, it is recommended that all medically eligible persons born since 1957 who have never had measles ensure that they have had two doses of measles vaccine. Measles vaccine is usually combined with mumps and rubella vaccine under the name MMR (measles-mumps-rubella) vaccine.

What can be done to prevent the spread of measles?

The best way to prevent spread to susceptible persons is to vaccinate those medically eligible with the measles vaccine. Even after exposure, the measles vaccine, can still be effective in preventing disease if the vaccine is administered within 72 hours of exposure to measles. Immunodeficient or pregnant women can be given immune globulin (IG) within 6 days of exposure to measles to prevent or significantly modify the disease. Along with the vaccination of those susceptible to measles, persons infected with the disease should remain confined to home and avoid exposing others who may be susceptible until after the rash fades. Care should especially be taken to avoid exposing persons who are at higher risk of developing complications or who cannot get the vaccination, such as persons with weakened immune systems, young infants, and pregnant women.