

What is measles?

Measles is an acute, highly contagious respiratory disease caused by a virus. The virus normally grows in the back of the throat and in the cells that line the lungs. Since the introduction of the measles vaccination in 1963, the number of measles cases has decreased to about 100 cases reported annually in the United States.

Who gets measles?

Most people in the United States are protected against measles through vaccination, so measles cases in the U.S. are uncommon compared to the number of cases before a vaccine was available. However, measles is still brought into the United States by unvaccinated travelers who get measles while they are in other countries. They can spread measles to other people who are not protected against measles, which sometimes leads to outbreaks. This can occur in communities with unvaccinated people; for example, during 2014 and 2022, there were measles outbreaks in unvaccinated communities in Ohio.

How is measles spread?

The virus resides in the mucus in the nose and throat of the infected person. When a person with the measles virus sneezes, coughs, or talks, droplets with virus spray into the air. The virus can land in other people's noses or throats when they breathe or be transferred to their mouth or nose after touching a surface contaminated with respiratory droplets. The virus remains active and contagious in the air for up to 2 hours. The disease is highly contagious and can be transmitted from 4 days prior to the onset of the rash to 4 days after the onset. Measles spreads so easily that anyone who is not immunized will likely become sick if exposed to the virus; if one person has measles, 90% of their susceptible close contacts will also become infected with the measles virus.

What are the symptoms of measles?

An individual's symptoms usually begin to appear about 10 to 12 days after exposure to the virus. People infected with measles usually first experience a fever greater than or equal to 101°F that lasts about 2 to 4 days. The fever can peak as high as 105°F. This is followed by the onset of cough, runny nose, and/or conjunctivitis (pink eye). A red blotchy rash usually appears about 14 days after exposure to measles and lasts 5 to 6 days. The rash typically begins at the hairline, then spreads to the face and upper neck. Over the next 3 days, the rash gradually proceeds downward and outward, reaching the hands and feet. Koplik spots (little white spots) may also appear on the gums and inside of the cheeks.

How soon do symptoms appear?

Symptoms usually appear within 14 days after exposure, although they may occur as early as 7 or as late as 21 days after exposure.

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

An individual is able to transmit measles from four days prior to and four days after rash onset.

Does past infection make a person immune?

Yes. Permanent immunity is acquired after contracting the disease.

What is the treatment for measles?

There is no specific treatment for measles.

What are the complications associated with measles?

Approximately 20% of reported measles cases experience one or more complications. These complications are more common among children under 5 years of age and adults over 20 years old. One out of ten children will develop ear infection. As many as one out of 20 children with measles gets pneumonia, and about one child in every 1,000 who gets measles develops encephalitis (an acute inflammation of the brain). For every 1,000 children who get measles, one or two will die from it. In developing countries, where malnutrition and vitamin A deficiency are prevalent, measles has been known to kill as many as one out of four people. It is the leading cause of blindness among African children. Measles kills almost 1 million children in the world each year.

How can measles be prevented?

Adults born in 1957 or later who do not have a medical contraindication should receive at least one dose of MMR vaccine unless they have documentation of vaccination with at least one dose of measles-containing vaccine or a history of physician-diagnosed measles or laboratory confirmation of measles immunity. With the exception of women who might become pregnant and persons who work in medical facilities, birth before 1957 generally can be considered acceptable evidence of immunity to measles, mumps, and rubella. Children should receive two doses of MMR vaccine: the first dose should be given at 12 to 15 months of age and the second dose at four to six years of age (school entry). MMR vaccine is recommended for all measles vaccine doses to provide increased protection against all three vaccine-preventable diseases: measles, mumps, and rubella. Measles immunization is required of all children enrolled in daycares and schools in Ohio. Persons traveling out of the country need to make sure that they and their travel mates (including family members) are vaccinated against measles.

For more information, please visit these websites:

- CDC Measles: www.cdc.gov/measles
- CDC ACIP MMR Vaccine Recommendations: www.cdc.gov/vaccines/hcp/acip-recs/vacc-specific/mmr.html