

# Q&A MEASLES: WHAT YOU SHOULD KNOW

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Measles is one of the most highly contagious diseases known. Almost everyone who is susceptible that comes in contact with the virus will get sick. Additionally, virus particles from infected people can remain in the air in a small or enclosed area for up to two hours after the infected person leaves. This can make it difficult to protect someone who is not immune to measles virus.

## Q. What is measles?

A. Measles is a virus that infects the respiratory system and results in a rash that covers the body. Measles is highly contagious and is spread through respiratory droplets from infected individuals.

## Q. What are the symptoms of measles?

A. The most well-known symptom of measles is the rash that begins around the hairline and spreads to the trunk before reaching the arms and legs. Measles also causes several other symptoms that together make infected individuals very uncomfortable for about a week. Small white spots with bluish centers form in the mouth a day or two before the body rash develops; these spots are known as “Koplik’s spots.” Other common symptoms include high fever, cough, fatigue and conjunctivitis (“pink eye”).

## Q. How is measles transmitted?

A. Measles is transmitted in respiratory droplets from infected people, generally through coughing and sneezing. Infection can occur when these droplets containing measles virus enter the nose or mouth. Measles cannot be transmitted by touching the rash of an infected individual; however, people infected with measles are contagious for about four days before the rash develops until about four days after it develops.

## Q. Is measles dangerous or life-threatening?

A. Measles infections can cause complications that range from diarrhea or ear infections to more severe complications including swelling of the brain (encephalitis), infection of the lungs (pneumonia), seizures or death. About one in three people will experience complications; most of these people will be children younger than five years old or adults 20 years or older. Pregnant women infected with measles are at increased risk of premature labor, spontaneous abortion or delivering a baby with low birthweight. People who are immune-compromised are at increased risk for a prolonged infection. Very rarely, in previously healthy people, measles infection can cause a deadly disease called subacute sclerosing panencephalitis, or SSPE. SSPE causes degeneration of the central nervous system leading to problems with intellect and behavior, weakness, seizures and subsequent death. Symptoms of SSPE typically develop years after the initial measles infection.



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## Q. How is the measles vaccine made?

A. The measles vaccine used in the United States is a live, weakened form of the virus grown in chick cells. In the United States, the measles vaccine is combined with the mumps and rubella vaccines. This combination vaccine, developed by Maurice Hilleman, is commonly known as the MMR vaccine.

## Q. Who should get the measles vaccine?

A. Measles vaccine is recommended for children between 12 and 15 months of age. A second dose should be administered between 4 and 6 years of age. Susceptible adults should get one dose of measles vaccine.

## Q. Is the measles vaccine safe?

A. The measles vaccine is safe. Occasional and rare side effects of the MMR vaccine include rash, fever, tenderness at the injection site, temporary inflammation of joints, or a temporary decrease in blood platelets. The MMR vaccine does not cause autism.

## Q. Why are measles outbreaks occurring in the United States?

A. The measles vaccine works well. About 95 to 98 of every 100 people will be protected after getting one dose of the MMR vaccine and 99 of 100 after two doses. However, because measles virus is highly contagious, even a few susceptible people in a community will allow the virus to spread. Given that some groups of people cannot get vaccinated, keeping immunization rates high in the community is of utmost importance to stopping outbreaks.



## Q. If I've been vaccinated, do I need a measles vaccine booster during an outbreak?

A. No. The measles vaccine induces long-term immunity; therefore, those previously vaccinated are typically considered to be protected. If you are unsure whether you are immune, consult a physician.

## Q. Why is the measles vaccine combined with the mumps and rubella vaccines?

A. The vaccine was combined to reduce the number of shots necessary to protect against all three diseases. Separate vaccines are not currently available in the U.S.

The MMR vaccine is safe. Studies in hundreds of thousands of children have confirmed that it does not cause autism.

*This information is provided by the Vaccine Education Center at Children's Hospital of Philadelphia. The Center is an educational resource for parents and healthcare professionals and is composed of scientists, physicians, mothers and fathers who are devoted to the study and prevention of infectious diseases. The Vaccine Education Center is funded by endowed chairs from Children's Hospital of Philadelphia. The Center does not receive support from pharmaceutical companies. ©2017 Children's Hospital of Philadelphia, All Rights Reserved. 17010-09-17.*