Questions and Answers about Measles

March 2025

Measles is a disease caused by infection with the measles virus. Before the measles vaccine, nearly everyone got infected with measles during childhood. Once the vaccine became widespread, the number of measles cases dropped to fewer than 150 cases per year from 2001 to 2010. Since 2012, the number of measles cases has been increasing. This is a major public health concern because of how easily the virus spreads and how serious the infection can be. There have been 2 measles deaths in the US as of March 2025 in an unvaccinated child and an unvaccinated adult. These are the first measles deaths in the United States since 2015. A number of children and adults have been hospitalized in recent years.

Source: Centers for Disease Control and Prevention, American Thoracic Society.

How is measles spread?

Measles is spread from person to person. You can get sick by being close to an infected person who is coughing or sneezing. You can also get sick if you have contact with their body fluids, for example, by shaking hands or touching surfaces that they have recently touched. The virus can live for up to 2 hours on surfaces and in contaminated air. It enters the body through the eyes, nose, or mouth. Measles is highly contagious: up to 90% of unvaccinated people who come in close contact with an infected person will get the disease.

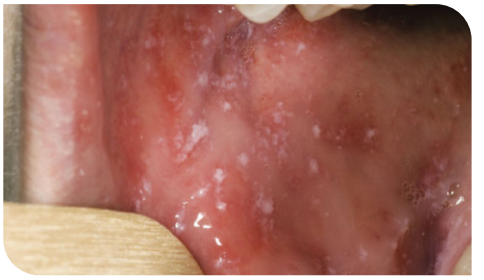
What are the symptoms of measles?

The symptoms of measles are like the flu, but measles also causes a rash. Symptoms start within 1–2 weeks of contact with an infected person. The first symptoms are high fever, cough, runny nose, and red, watery eyes. In 2–3 days, white spots may appear on the inside of the mouth, known as Koplik spots (right). After 3–5 days, a rash of small red spots and bumps appears on the face and head and then spreads to the rest of the body (top).

People with measles can spread the disease from 4 days before the rash appears until 4 days after. Measles symptoms get better within 1–2 weeks.

How is measles diagnosed?

Measles is diagnosed by testing for the virus with a throat swab.



Source: https://www.nhs.uk/conditions/measles/symptoms/

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Is measles dangerous?

Up to 40% of people who get measles will have other health problems (complications) from the infection. The most common problems are ear infections and diarrhea, which occur in about 1 out of 10 infected children. Pneumonia occurs in about 1 out of 20 infected children. Rarely, measles can cause inflammation of the brain and blindness. About 1–2 children out of every 1000 infected will die from the disease. Adults tend to have worse symptoms and are more likely to end up in the hospital. People who have weakened immune systems, babies, and pregnant women are at higher risk of having a serious measles infection.

How is measles treated?

There is no treatment for measles. Antibiotics do not work against measles because it is a viral infection. Children with measles should be treated with Vitamin A as this may reduce the risk of complications. Families should not try to treat or prevent measles at home with Vitamin A. Excessive Vitamin A intake can cause health problems.

How is measles prevented?

Vaccination against measles is more than 97% effective in preventing the disease. The first dose of vaccine should be given at 12–15 months of age, and the second dose at 4–6 years of age. Vaccination and natural infection both provide lifelong protection. Two doses of MMR protect 97-99 out of every 100 people.People born before 1957 are assumed to have natural immunity due to having measles during childhood before vaccine was available.

If you are unsure if you are fully protected or are at higher risk, talk to your doctor about whether you need a booster measles vaccine. People who may be at higher risk may include:

- older adults
- college students
- those who live with immunocompromised people
- those who live in a community with a measles outbreak
- those traveling abroad

Is the measles vaccine safe?

Yes, the measles vaccine is extremely safe. It is usually given together with vaccines against mumps and rubella, known as the MMR vaccine. The vaccine has a weakened version of the virus, which triggers the body to make proteins (antibodies) that will attack the real measles virus in the event of an exposure. The most common side effects of the MMR vaccine are soreness at the site of the shot, fever, mild rash, and joint pain. A link between the MMR vaccine and autism was reported in the 1990s, but this was based on falsified data and fraud and has since been disproved. In addition to preventing measles, getting vaccinated also helps protect those who cannot get the vaccine for medical reasons. There is no harm in getting another dose of vaccine if a person is unsure of their vaccination status.

What if I am exposed to measles but have not been vaccinated or have a weakened immune system?

If you have recently been exposed to measles (within 72 hours) and have never been vaccinated or have a weakened immune system, contact a doctor right away. Treatment with the measles vaccine or immunoglobulins (concentrated antibodies from donated blood) can help reduce the risk of getting an infection. Immunoglobulins are only recommended for people with weakened immune systems.

Note: This Patient Education Q/A fact sheet was adapted from the Public Health Series fact sheet website update March 2025

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