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WAYS OF TRANSMISSION OF THE MEASLES VIRUS AND ITS PREVENTION

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Annotation: Measles is a highly contagious, vaccine-preventable infectious disease caused by measles virus. Symptoms usually develop 10–12 days after exposure to an infected person and last 7–10 days.Initial symptoms typically include fever, often greater than 40 °C (104 °F), cough, runny nose, and inflamed eyes.Small white spots known as Koplik's spots may form inside the mouth two or three days after the start of symptoms. A red, flat rash which usually starts on the face and then spreads to the rest of the body typically begins three to five days after the start of symptoms.Common complications include diarrhea (in 8% of cases), middle ear infection (7%), and pneumonia (6%).These occur in part due to measles-induced immunosuppression.Also called rubeola, measles spreads easily and can be serious and even fatal for small children. While death rates have been falling worldwide as more children receive the measles vaccine, the disease still kills more than 200,000 people a year, mostly children.

Key words: Measles, blood, infection.

As a result of high vaccination rates in general, measles hasn't been widespread in the United States in about two decades. Most recent measles cases in the U.S. originated outside the country and occurred in people who were unvaccinated or who didn't know whether or not they had been vaccinated.

Measles

Measles causes a red, blotchy rash that usually appears first on the face and behind the ears, then spreads downward to the chest and back and finally to the feet.
The infection occurs in stages over 2 to 3 weeks.

Infection and incubation. For the first 10 to 14 days after infection, the measles virus spreads in the body. There are no signs or symptoms of measles during this time.

Nonspecific signs and symptoms. Measles typically begins with a mild to moderate fever, often with a persistent cough, a runny nose, inflamed eyes (conjunctivitis) and a sore throat. This relatively mild illness may last 2 to 3 days.

Acute illness and rash. The rash is made up of small red spots, some of which are slightly raised. Spots and bumps in tight clusters give the skin a splotchy red appearance. The face breaks out first.

Over the next few days, the rash spreads down the arms, chest and back, then over the thighs, lower legs and feet. At the same time, the fever rises sharply, often as high as 104 to 105.8 F (40 to 41 C).

Recovery. The measles rash may last about seven days. The rash gradually fades first from the face and last from the thighs and feet. As other symptoms of the illness go away, the cough and darkening or peeling of the skin where the rash was may stay for about 10 days.

When can a person spread the measles virus?
A person with measles can spread the virus to others for about eight days, starting four days before the rash appears and ending when the rash has been present for four days.
Measles is a highly contagious illness. This means it's very easily spread to others. Measles is caused by a virus found in the nose and throat of an infected child or adult. When someone with measles coughs, sneezes or talks, infectious droplets spray into the air, where other people can breathe them in. The infectious droplets can hang in the air for about an hour.

The infectious droplets may also land on a surface, where they can live and spread for several hours. You can get the measles virus by putting your fingers in your mouth or nose or rubbing your eyes after touching the infected surface.

Measles is highly contagious from about four days before to four days after the rash appears. About 90% of people who haven't had measles or been vaccinated against measles will become infected when exposed to someone with the measles virus.
Risk factors for measles include:

Being unvaccinated. If you haven't had the measles vaccine, you're much more likely to get measles.

Traveling internationally. If you travel to countries where measles is more common, you're at higher risk of catching measles.

Having a vitamin A deficiency. If you don't have enough vitamin A in your diet, you're more likely to have more-severe symptoms and complications of measles.

The U.S. Centers for Disease Control and Prevention (CDC) recommends that children and adults receive the measles vaccine to prevent measles.

Measles vaccine in children

The measles vaccine is usually given as a combined measles-mumps-rubella (MMR) vaccine. This vaccine may also include the chickenpox (varicella) vaccine — measles-mumps-rubella-varicella (MMRV) vaccine. Health care providers recommend that children receive the measles-mumps-rubella (MMR) vaccine between 12 and 15 months of age, and again between 4 and 6 years of age — before entering school.

The MMR vaccine's two doses are 97% effective in preventing measles and protecting against it for life. In the small number of people who get measles after being vaccinated, the symptoms are generally mild.

Keep in mind:

If you'll be traveling internationally outside the U.S. when your child is 6 to 11 months old, talk with your child's health care provider about getting the measles vaccine earlier.

If your child or teenager didn't get the two doses of the vaccine at the recommended times, your child may need two doses of the vaccine four weeks apart.

Babies born to women who have received the vaccine or who are already immune because they had measles are usually protected from measles for about 6 months after birth. If a child requires protection from measles before 12 months of age — for example, for foreign travel — the vaccine can be given as early as 6 months of age. But children who are vaccinated early still need to be vaccinated at the recommended ages later.

Providing a child with the MMR vaccine as a combination of recommended vaccines can prevent a child's delay in protection against infection from measles, mumps and rubella — and with fewer shots. The combination vaccine is as safe and effective as the vaccines given separately. Side effects are generally mild and may include a sore arm where the shot was given and fever.

No proven link between the MMR vaccine and autism
After the MMR study in 1998, some drops in vaccine numbers were found in the UK and elsewhere, and some people believed there was a possible link. Since then, widespread concerns have been raised about a possible link between the MMR vaccine and autism. However, extensive reports from the American Academy of Pediatrics, the National Academy of Medicine, and the Centers for Disease Control and Prevention (CDC) conclude that there is no scientifically proven link between the MMR vaccine and autism.

These organizations note that autism is often identified in toddlers between the ages of 18 and 30 months, which is about the time children are given their first MMR vaccine. But this coincidence in timing shouldn't be mistaken for a cause-and-effect relationship.
Your health care provider can usually diagnose measles based on the disease's characteristic rash as well as a small, bluish-white spot on a bright red background — Koplik's spot — on the inside lining of the cheek. Your provider may ask about whether you or your child has received measles vaccines, whether you have traveled internationally outside of the U.S. recently, and if you've had contact with anyone who has a rash or fever.

However, many providers have never seen measles. The rash can be confused with many other illnesses, too. If necessary, a blood test can confirm whether the rash is measles. The measles virus can also be confirmed with a test that generally uses a throat swab or urine sample.

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