

Memorandum

TO: All Employees

FROM: Laura Wooding, Director, Medical Services

DATE: 4/15/19

SUBJECT: What should you know about Measles?

Due to the rise in reported cases of Measles there has been a great deal of discussion about the disease in news outlets, on TV, the internet and social media. All of this may leave some wondering what one really needs to know about the disease. The Center for Disease Control and Prevention (CDC) provides a wealth of information pertaining to the Measles. Below are the most important facts to know:

Before the measles vaccination program started in 1963, an estimated 3 to 4 million people got measles each year in the United States. Of these, approximately 500,000 cases were reported each year to CDC; of these, 400 to 500 died, 48,000 were hospitalized, and 1,000 developed encephalitis (brain swelling) from measles. Since then, widespread use of measles vaccine has led to a greater than 99% reduction in measles cases compared with the pre-vaccine era. However, measles is still common in other countries. Unvaccinated people continue to get measles while abroad and bring the disease into the United States and spread it to others.

Measles is a highly contagious virus that lives in the nose and throat mucus of an infected person. It can spread to others through coughing and sneezing. Also, measles virus can live for up to two hours in an airspace where the infected person coughed or sneezed. If other people breathe the contaminated air or touch the infected surface, then touch their eyes, noses, or mouths, they can become infected. Measles is so contagious that if one person has it, up to 90% of the people close to that person who are not immune will also become infected. Infected people can spread measles to others from four days before through four days after the rash appears.

Measles is a disease of humans; measles virus is not spread by any other animal species.

Signs and Symptoms

The symptoms of measles generally appear about seven to 14 days after a person is infected.

Measles typically begins with

- high fever,
- cough,
- runny nose
- red, watery eyes

Two or three days after symptoms begin, tiny white spots (Koplik spots) may appear inside the mouth.

Three to five days after symptoms begin, a rash breaks out. It usually begins as flat red spots that appear on the face at the hairline and spread downward to the neck, trunk, arms, legs, and feet. Small raised bumps may also appear on top of the flat red spots. The spots may become joined together as they spread from the head to the rest of the body. When the rash appears, a person's fever may spike to more than 104° Fahrenheit. Measles can be a serious in all age groups. However, children younger than 5 years of age and adults older than 20 years of age are more likely to suffer from measles complications.

Common Complications

Common measles complications include ear infections and diarrhea.

- Ear infections occur in about one out of every 10 children with measles and can result in permanent hearing loss.
- Diarrhea is reported in less than one out of 10 people with measles.

Severe Complications

Some people may suffer from severe complications, such as pneumonia (infection of the lungs) and encephalitis (swelling of the brain). They may need to be hospitalized and could die.

- As many as one out of every 20 children with measles gets pneumonia, the most common cause of death from measles in young children.
- About one child out of every 1,000 who get measles will develop encephalitis (swelling of the brain) that can lead to convulsions and can leave the child deaf or with intellectual disability.
- For every 1,000 children who get measles, one or two will die from it.

Measles may cause pregnant woman to give birth prematurely, or have a low-birth-weight baby.

Long-term Complications

Subacute sclerosing panencephalitis (SSPE) is a very rare, but fatal disease of the central nervous system that results from a measles virus infection acquired earlier in life. SSPE generally develops 7 to 10 years after a person has measles, even though the person seems to have fully recovered from the illness. Since measles was eliminated in 2000, SSPE is rarely reported in the United States.

Among people who contracted measles during the resurgence in the United States in 1989 to 1991, 4 to 11 out of every 100,000 were estimated to be at risk for developing SSPE. The risk of developing SSPE may be higher for a person who gets measles before they are two years of age.

Prevention

Measles can be prevented with MMR vaccine. The vaccine protects against three diseases: measles, mumps, and rubella. CDC recommends children get two doses of MMR vaccine, starting with the first dose at 12 through 15 months of age, and the second dose at 4 through 6 years of age. Teens and adults should also be up to date on their MMR vaccination. The MMR vaccine is very safe and effective. Two doses of MMR vaccine are about 97% effective at preventing measles; one dose is about 93% effective.

Is there a link between the MMR vaccine and autism?

No. Scientists in the United States and other countries have carefully studied the MMR vaccine. None have found a credible link between autism and the MMR vaccine.

In 1998, a report was published describing 12 patients with inflammatory bowel conditions and regressive developmental disorders consisting primarily of autism. The authors hypothesized that MMR vaccine may have been responsible for the bowel dysfunction which subsequently resulted in the neurodevelopmental disorders. The suggestion that measles vaccine may cause autism through a persistent bowel infection generated much interest since it provided a possible biological mechanism for a causal association. Epidemiological studies, however, have not found an association between MMR vaccination and autism. Autism has a strong genetic component and its associated neurological defects probably occur during embryonic development. It seems unlikely that a vaccination that is given after birth could cause autism. In a minority of cases, autism may have onset after 1 year of age (regressive autism) but the one epidemiological study that included such cases did not find an association with MMR vaccination. Currently, the weight of the available epidemiological and related evidence does not support a causal link between MMR vaccine and autism.

References:

Centers for Disease Control and Prevention
Expert Opin Drug Saf. 2002 Jul;1(2):115-20.
U.S. Department of Health & Human Services