

## Preventing the Spread of Measles

*This WorkCare Fact Sheet provides guidance on measles prevention.*

Measles is a highly contagious viral respiratory illness that can be prevented with vaccination. Complications from the measles have serious health effects and can cause death in vulnerable populations.

In 2024, measles outbreaks have been reported in every region of the world, including the U.S. Outbreaks typically occur in places where people are not vaccinated or are under-vaccinated. According to the [Centers for Disease Control and Prevention \(CDC\)](#), measles may be spread by infected travelers who are visiting the U.S. or returning home from other countries or regions with high case rates.

Measles was declared eliminated in the U.S. in 2000 after almost 1,300 cases were reported in 31 states in 2019, the most reported since 1992. However, during the COVID-19 pandemic, over 61 million doses of measles vaccine were postponed or missed worldwide, increasing the likelihood of outbreaks. (Refer to the CDC for the [latest information on measles cases and outbreaks.](#))

The virus is transmitted by direct or airborne contact with infectious droplets that spread when an infected person breathes, coughs or sneezes. Measles virus can remain infectious in the air for up to two hours after an infected person leaves an area. Measles is infectious from four days before the rash appears through four days after rash onset.

People at high risk for severe illness and complications from measles include:

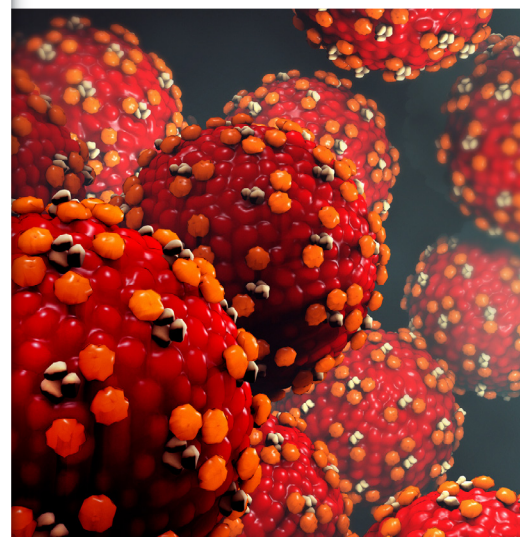
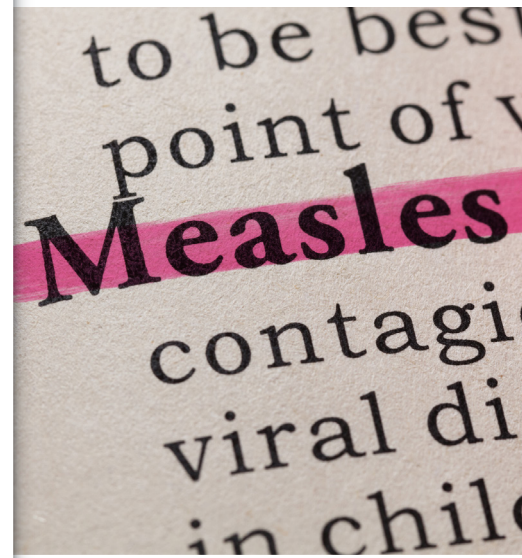
- Infants and children under age 5
- Adults over 20 years old
- Pregnant women
- Those with compromised immune systems

### Vaccination

A measles shot is administered as the combination measles-mumps-rubella (MMR) vaccine, or in a combination that includes varicella (MMRV). Single-antigen measles vaccine is not available.

All 50 states and the District of Columbia require vaccinations for children entering kindergarten. All states allow medical exemptions to these requirements, and some states also offer exemptions for religious or philosophical reasons.

One dose of MMR vaccine is approximately 93 percent effective at preventing measles; two doses are approximately 97 percent effective. Almost everyone who does not respond to the measles component of the first dose of MMR vaccine responds to the second dose. After two doses, a booster vaccine is not needed later in life, according to public health officials.



## Immunity

People are presumed to be immune to measles if they have:

- Written documentation of adequate vaccination, either one or more doses of a measles-containing vaccine administered on or after the first birthday for preschool-age children and adults not at high risk, or two doses of measles-containing vaccine for school-age children and adults at high risk, including college students, health care personnel and international travelers
- Laboratory evidence of immunity or confirmation of having had measles
- Birth date before 1957 (measles exposure presumed)

## Symptoms, Diagnosis and Treatment

Measles typically begins with a mild to moderate fever accompanied by cough, coryza (inflammation of mucous membranes in the nose) and conjunctivitis (pink eye). Diarrhea, nausea and vomiting may also occur. Two to three days later, Koplik's spots, a characteristic sign of measles, may appear, and fever often spikes to 104°F or even higher. A red blotchy rash appears, usually first on the face, along the hairline and behind the ears. The rash rapidly spreads downward to the chest and back, then to the thighs and feet. In about one week the rash fades in the same sequence that it appeared.

Laboratory tests of blood samples are used to verify a measles diagnosis. During an outbreak, medical providers are encouraged to consider measles in patients of any age who have a fever and rash.

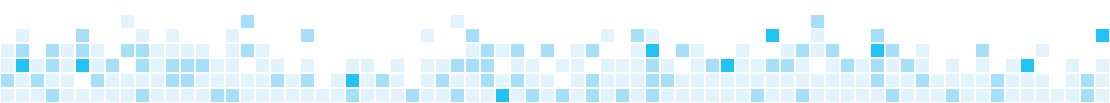
There is no specific antiviral therapy for measles. Supportive medical care helps relieve symptoms and addresses potential complications such as bacterial infections. In severe measles cases among children, vitamin A is usually administered because deficiency is a risk factor.

## Exposure Recommendations

The MMR vaccine, if administered within 72 hours of initial exposure, or immunoglobulin (IG), if administered within six days of exposure, may help prevent measles or lessen symptoms if measles develops. These interventions are called post-exposure prophylaxis (PEP).

Public health authorities recommend the following measures:

- Offering vaccination to non-immune individuals
- Providing PEP to susceptible contacts
- Practicing social distancing (isolation, quarantine, exclusion)
- Encouraging monitoring and reporting of symptoms



U.S. public health recommendations include the following:

1. People without evidence of immunity and/or who have been exempted from measles vaccination, and who do not receive PEP within the appropriate time frame should be excluded from affected institutions in the outbreak area until 21 days after the onset of rash.
2. People who receive PEP should be monitored for signs and symptoms consistent with measles for at least one incubation period.
3. Infected people should be isolated for **four days** after they develop a rash.
4. Airborne precautions should be followed in health care settings regardless of presumptive immunity status.

Occupational Safety and Health Administration (OSHA) standards intended to help protect workers from exposure to measles include the [Personal Protective Equipment standard \(29 CFR 1910.132\)](#) and the [Respiratory Protection standard \(29 CFR 1910.134\)](#). Employment law attorneys advise employers to develop policies regarding notifications of potential exposure or a confirmed case of measles.

## Other Preventive Steps

In addition to vaccination, it's important to practice good hygiene:

- Cover the mouth and nose with a tissue when coughing or sneezing, then throw the tissue away. Wash hands often with soap and water.
- Avoid sharing drinks or eating utensils.
- Disinfect frequently touched surfaces such as doorknobs, tables and counters. Standard household disinfectants kill the measles virus.

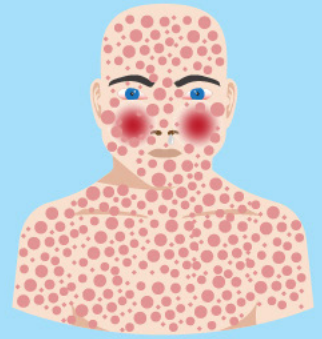
**Health care personnel:** People who work in health care settings should have documented evidence of immunity against measles.

**International travelers:** Refer to the [CDC's Travelers' Health webpage](#) for guidance on global travel precautions for children and adults.

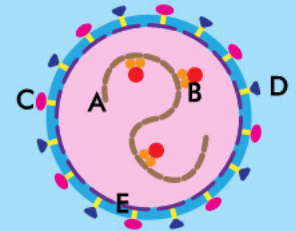
**Women of childbearing age:** Women are advised to get at least one dose of MMR vaccine before they get pregnant if they do not already have immunity. Studies show measles is associated with miscarriage and premature birth.

Suspected or known exposure to measles should be reported to a personal health care provider for follow-up. Contact WorkCare at [info@workcare.com](mailto:info@workcare.com) for guidance on infectious disease prevention and management in the workplace.

# MEASLES



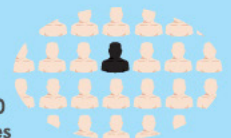
**SYMPTOMS:**  
High fever (104F / 40C +),  
Cough, Runny nose, Red, watery eyes,  
Rash breaks out 3-5 days after  
symptoms begin.



- A** Nucleocapsid (RNA genome + N proteins)
- B** RNA polymerase (L + P proteins)
- C** H protein
- D** F protein
- E** M protein



About 25% people  
who get measles  
will be hospitalized.



1 out of every 1000  
people with measles  
will develop brain  
swelling due to infection.



1 - 2 out of 1000  
people with measles  
will die.