

# Measles (Rubeola)

## **Causative Agent**

Measles is a highly contagious viral infection that primarily infects the respiratory system and can lead to severe complications.

## **Mode of Transmission**

Measles spreads through respiratory droplets and direct contact with infected secretions. Common transmission methods include:

- Inhalation of virus-containing droplets from coughing or sneezing
- Contact with contaminated surfaces followed by touching the face (eyes, nose, or mouth)
- Being in close proximity to an infected individual, as the virus remains airborne for up to two hours in enclosed spaces

## **Symptoms**

Symptoms typically appear 10 to 14 days after exposure and progress through several stages:

### **Early Symptoms (Prodromal Phase):**

- High fever
- Cough
- Runny nose (coryza)
- Red, watery eyes (conjunctivitis)
- Koplik spots (small white spots inside the mouth)

### **Rash Phase:**

- A red, blotchy rash begins on the face and spreads downward to the trunk and extremities
- Rash lasts for about 5 to 7 days before fading

### **Complications:**

- Pneumonia, encephalitis, ear infections, and severe diarrhea, especially in young children and immunocompromised individuals

## **Exposure Sources and Risk Factors**

Common sources of measles exposure include:

- Close contact with infected individuals, especially in crowded or unvaccinated communities
- International travel to areas with ongoing measles outbreaks
- Healthcare settings where measles patients are being treated

## **Risk factors include:**

- You are at risk for measles if you have not been fully vaccinated or have not had measles in the past and you travel to areas where measles is spreading.
- Infants too young for vaccination
- Malnutrition or vitamin A deficiency
- Immunocompromised individuals, including those with HIV/AIDS or undergoing chemotherapy

## **Seasonality**

Measles is not a seasonal virus. However, measles is often spread over times of high travel (like spring break) or in situations where unvaccinated persons are in close quarters (like summer camp).

## **Preventive Measures**

### **Measles, Mumps, and Rubella (MMR) Vaccine:**

- Two-dose series: first dose at 12–15 months, second dose at 4–6 years
- Provides lifelong immunity in most individuals
- Women should not get the vaccine if they are pregnant or plan to get pregnant within 4 weeks after getting the vaccine.
- Two doses of MMR vaccine are 97% effective at preventing measles, 1 dose is 93% effective. It is uncommon for someone fully vaccinated to develop measles. However, breakthrough infections can occur, especially in communities experiencing an outbreak where high levels of measles virus are circulating.

### **Travel internationally and to high-risk areas**

- Talk to your healthcare provider about the measles, mumps, and rubella (MMR) vaccine, especially if planning to travel.
- After you return, watch your health for 3 weeks and call your healthcare provider if you or your child gets sick with a rash and fever.

### **Stay home if you are sick:**

- Avoiding public spaces for at least four days after rash onset

### **Good Hygiene Practices:**

- Frequent handwashing and respiratory etiquette (covering coughs and sneezes)



# DO ADULTS NEED VACCINATION AGAINST MEASLES?

## MMR (Measles, Mumps, Rubella) vaccination is recommended for adults:

- Who do not have **presumptive evidence** of immunity to measles
- Who received killed measles vaccine from 1963 through 1967 during childhood.

**One dose of MMR vaccine**, or other presumptive evidence of immunity, is sufficient for most adults.

If you do not have presumptive evidence of immunity, **two dose of MMR** vaccine given **28 days apart**, is recommended for

Healthcare personnel

International travelers

Adults with HIV infection

Household and close contacts of immunocompromised persons

**Presumptive evidence** of immunity can be established in any of the following ways:

- Written documentation of **one or more doses** of a measles-containing vaccine administered on or after the first birthday for preschool-age children and adults not considered high risk
- Written documentation of **two doses** of measles-containing vaccine for school-age children and adults at high risk, including students at post-high school secondary educational institutions, healthcare personnel, and international travelers
- Laboratory evidence of immunity
- Laboratory confirmation of disease
- Birth before 1957

**Women should not get the vaccine if they are pregnant or plan to get pregnant within 4 weeks after getting the vaccine.**