

Measles

What is measles?

- A highly contagious and acute viral disease caused by the measles virus. Humans are the only natural host for the measles virus.
- Outbreaks continue to occur when unimmunized people become infected, travel to the United States, and infect others who are not immunized.

What are the signs or symptoms?

- Fever, cough, runny nose, and red, watery eyes.
- Small red spots in mouth (called Koplik spots).
- Appearance of rash at hairline spreading downward over body.
- May have diarrhea or ear infection as a complication.
- Complications may be serious and result in pneumonia, brain inflammation, convulsions, deafness, mental retardation, or death.

What are the incubation and contagious periods?

- Incubation period: 8 to 12 days from exposure to onset of signs or symptoms
- Contagious period: From 1 to 2 days before the first signs or symptoms appear (4 days before the rash) until 4 days after the appearance of the rash

How is it spread?

- Respiratory (droplet) route: Contact with large droplets that form when a child talks, coughs, or sneezes. These droplets can land on or be rubbed into the eyes, nose, or mouth. The droplets don't stay in the air; they travel less than 3 feet and fall onto the ground. Most common route.
- Airborne route: Breathing small particles containing virus floating in the air. These particles first come from a child's respiratory secretions as droplets after a cough or sneeze. They dry out quickly in the air or fall onto surfaces, then dry out and attach to dust particles, which become suspended again in the air. These particles travel along air currents and can infect children in another room.

How do you control it?

- Measles is a vaccine-preventable disease. Follow the most recent immunization recommendations. Measles, mumps, and rubella (MMR) vaccine is given at 12 months, and a second MMR vaccine is recommended at 4 to 6 years of age. A combined MMR with a varicella vaccine (MMRV) is available.



Face of a boy with measles, characteristic of the third day of the rash

- Review immunization status of all children and staff members.
- Exclude infected children until they are no longer contagious (4 days after the rash). Because measles viruses are spread by the airborne route, infected children should not be cared for in any child care area (eg, a special room for children who are ill).
- Exclude exposed children who have not been immunized (or who are incompletely immunized for their age) until they become immunized. If they are not immunized because of an accepted exemption from immunization, continue to exclude them until the health department determines it is safe for them to return. A single case of measles anywhere in the United States is considered to be a reportable outbreak.
- Use good hand-hygiene technique at all the times listed in "When to Practice Hand Hygiene" on 31 and routine infection control measures.

What are the roles of the teacher/caregiver and the family?

- Report the infection to the staff member designated by the child care program or school for decision-making and action related to care of ill children. That person in turn alerts possibly exposed family and staff members to watch for symptoms.
- Report the infection to the health department. If the health professional who makes the diagnosis does not inform the health department that the child who has the infection is a participant in a child care program or school, this could lead to a delay in controlling the spread.

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- Review and ensure that all children have received MMR vaccine according to current immunization recommendations.
- Ensure that staff members who have had fewer than 2 doses of vaccine are properly immunized, unless documented to have had the disease or were born before 1957 (presumed immune).
- Exclude exposed children with weakened immune systems and who have not received MMR vaccine. (Infants younger than 12 months are too young to have been immunized against measles.)

Exclude from group setting?

Yes.

- Measles is a highly communicable illness for which routine exclusion of infected children is warranted.
- Unimmunized people who have been exempted from measles immunization for medical, religious, or other reasons, if not immunized within 72 hours of exposure, should be excluded from the group care setting until at least 2 weeks after the onset of rash in the last case of measles.
- Immune globulin may prevent or modify measles disease in an unimmunized susceptible person if given within 6 days of exposure, especially infants younger than 6 months, pregnant women, and those with immune deficiency.

Readmit to group setting?

- Four days after beginning of rash
- When the child is able to participate and staff members determine that they can care for the child without compromising their ability to care for the health and safety of the other children in the group

Comment

The childhood and adolescent immunization program in the United States has resulted in a greater than 99% decrease in the reported incidence of measles since 1963.

