

ISDH Reportable Disease of the Month – Measles

What are the symptoms of measles?

Measles is a highly contagious disease that is transmitted by respiratory droplets and spread very efficiently through the air. The disease can result in severe complications, including pneumonia and encephalitis. The incubation period for measles ranges from 7 to 18 days. The prodromal phase can last from 1-7 days and is characterized by high fever, cough, coryza, conjunctivitis, and a blue-white mucosal rash, or Koplik spots. The maculopapular measles rash develops 2-4 days after the prodrome and persists for 5-6 days. The rash generally begins at the hairline, involves the face and neck, and then gradually proceeds downward and outward, reaching the hands and feet. It fades in the same pattern. Fine desquamation can occur over more severely involved areas.

The diagnosis of measles should be considered in any person with a generalized maculopapular rash lasting three or more days, a temperature of 101 degrees F or higher, and cough, coryza, or conjunctivitis. Immunocompromised patients may exhibit an atypical rash or no rash at all. Measles is contagious beginning with the prodrome until 3-4 days after rash onset.

Doesn't the MMR vaccine prevent measles?

Most children in Indiana are vaccinated against measles. Two doses of MMR vaccine after the first birthday separated by four weeks is effective 90 to 98 percent of the time, but measles outbreaks are common in other countries and cases continue to be imported to the United States in unvaccinated individuals. Many of us have never seen a case of measles in our practices and may be unsure of what to do with a suspected case. If you have a patient with a generalized maculopapular rash lasting three or more days; a temperature of 101 degrees F or higher; and cough, coryza, or conjunctivitis and you suspect measles virus as the etiology, it is important to confirm the diagnosis as soon as possible to prevent a measles outbreak in your community.

What do I do if I suspect measles in one of my patients?

1. Place the patient in a private room with the door closed. Report the **suspected** case of measles to the Indiana State Department of Health (ISDH) immediately by calling (317) 233-1325.
2. Swab the patient's throat with a dacron swab and place in viral transport medium. Also obtain acute serum samples for both measles IgM and IgG.
3. Keep the swab **refrigerated** until it is sent to the lab. Package the viral swab with cold packs to keep it cool until it gets to the lab.
4. It is important to isolate the infected patient from 4 days before rash development until 4 days after the rash develops.

5. Do **NOT** wait for lab results to contact the ISDH. The ISDH will work closely with you and the patient's contacts to prevent the spread of measles in your community.

What if my patient's test results are positive for Measles?

1. If the acute IgM is positive, you have a laboratory confirmed diagnosis of measles.
2. If the acute IgM is negative, but the viral swab is PCR or culture positive for measles virus, you also have a confirmed case of measles.
3. Instruct the patient to remain isolated until four days after the rash developed.
4. Vaccinate all unprotected contacts to prevent the spread of infection.

Do I need to do anything if the results are negative?

1. If the acute IgM is negative and the viral swab is negative, collect a second serum for IgM and IgG in 2-3 weeks. In the absence of recent vaccination, a four-fold increase in quantitative IgG titer or a seroconversion from negative to positive is considered positive for recent infection with measles.
2. Use this opportunity to educate your staff and to make sure your patients and staff **ALL** have immunity against measles. Those individuals born before 1957 and those who have received two MMR vaccines are considered immune.

According to the Indiana Communicable Disease Reporting Rule for Physicians, Hospitals and Laboratories, suspect cases of measles must be reported to the ISDH immediately. For more information, call the ISDH Surveillance and Investigation Division at (317) 233-1325.