



INFECTIOUS DISEASE EPIDEMIOLOGY

Measles Guidance for Schools and Childcare Facilities

Updated August 1, 2025



Measles Guidance for Schools and Childcare

This document provides guidance from the Wyoming Department of Health (WDH) for schools and childcare facilities on measures to take before a measles case is identified or suspected, and steps to follow if a case is confirmed in the school or childcare facility.

ABOUT THE DISEASE

Clinical Presentation

Measles is an acute viral respiratory illness. It is characterized by a prodrome of fever (as high as 105°F) and malaise, cough, coryza, and conjunctivitis (the three “C”s), a pathognomonic enanthema (Koplik spots), followed by a maculopapular rash. The rash usually appears about 14 days after a person is exposed. Koplik spots are punctate blue-white spots on the bright red background of the oral buccal (cheek) mucosa that occur 1-2 days before, to 1-2 days after, the skin rash. The measles rash is a maculopapular eruption that occurs 2-6 days after the onset of prodrome and about 14 days after exposure (range: 7-21 days). The rash lasts 5-6 days and begins at the hairline and spreads downward from the head to the trunk and lower extremities. Of note, sometimes immunocompromised patients do not develop the rash. Measles can cause serious health complications, including pneumonia and encephalitis.

Incubation Period

The incubation period of measles from exposure to the onset of prodromal symptoms is 8 to 12 days. The average interval from exposure to onset of rash is 14 days (range: 7-21 days).

Mode of Transmission

Measles is one of the most contagious of all infectious diseases, with a greater than 90% secondary attack rate among susceptible persons with close contact with a measles patient. The virus is transmitted by direct contact with infectious droplets or by airborne spread when an infected person breathes, coughs, or sneezes. The measles virus can remain infectious in the air for up to two hours after an infected person leaves an area.

Period of Communicability

Patients are most infectious from 4 days before through 4 days after rash onset (rash onset is day 0). This coincides with peak levels of viremia when cough and coryza are most intense, thus facilitating transmission. Immunocompromised patients may have prolonged excretion of the virus in respiratory tract secretions.



Susceptibility and Immunity

Persons who have no history of measles infection and who are not immunized are susceptible. Children less than 5 years old, pregnant women without evidence of immunity, and immunocompromised persons are particularly susceptible to severe disease.

Measles infection and measles immunization confer lifelong immunity. Primary vaccine failure can occur in up to 7% of persons after one dose. However, 97% of persons who receive two doses of the measles vaccine develop serologic evidence of immunity.

In most situations, individuals with the following are considered to have presumptive immunity to measles:

- Written documentation of adequate measles vaccination
- Laboratory evidence of immunity (positive measles serology)
- Laboratory confirmation of disease
- Birth before 1957

Wyoming Statutory Vaccination and Exclusion Requirements

The state of Wyoming requires that children attending Wyoming public or private childcare facilities, preschools, and K-12 schools receive certain vaccinations, including the Measles, Mumps, and Rubella (MMR) vaccine. Further information about Wyoming statutes and rules pertaining to mandatory immunizations and waivers can be found here: https://health.wyo.gov/publichealth/immunization/statutes_rules/.

In addition to mandatory immunizations, Wyoming Statute § 21-4-309(a) states the following: “In the presence of an outbreak of vaccine preventable disease as determined by the state or county health authority, school children for whom a waiver has been issued and who are not immunized against the occurring vaccine preventable disease shall be excluded from school attendance for a period of time determined by the state or county health authority, but not suspended from school as provided in W.S. 21-4-305. Children excluded from school attendance under this section shall not be counted in the aggregate number of pupils absent as defined in W.S. 21-13-101 (a) (i).”

WDH will notify childcare facilities, preschools, and K-12 schools of an outbreak of measles in their facilities and will provide guidance on the exclusion of non-immune students and staff based on the information below and the specific situation.



Steps to Take in Advance of a Case

1. Be prepared to readily access the measles immune status of all students and staff at the facility.
2. Create a list of students and staff over 12 months of age who do not have documentation of measles immunity. This list includes students and staff who have waivers or exemptions for medical or religious reasons. This group of students and staff may need to be excluded for a specified period of time if a case of measles occurs in the school or childcare facility. Exclusion means that students and staff cannot come to school and cannot participate in any school activities or extracurricular events for a specified period of time. Infants younger than 12 months are not recommended to receive routine MMR vaccination and are, in general, considered non-immune, though 6-11-month-olds may receive MMR in certain situations, such as in the case of international travel.
3. Encourage parents to provide the first dose of MMR as soon as possible after their student turns 12 months of age. Encourage parents to provide the second dose of MMR to their students prior to entry into kindergarten.
4. Communicate with parents and staff, reminding them of immunization recommendations and requirements.
5. Promote respiratory hygiene and cough etiquette.
6. Encourage frequent hand washing.
7. Disinfect frequently touched surfaces such as doorknobs and tables. Using standard disinfectants pursuant to the manufacturer's instructions should be sufficient for the measles virus.
8. Encourage students and staff to stay home when sick. Follow facility policies for the exclusion of ill students and staff.
9. Review the signs and symptoms of measles. Be watchful for students who may come to school with a fever and other signs and symptoms of measles. Identify a private room for students suspected of having measles to wait while their parents are coming to pick them up from school or childcare.

Steps to Take upon Notification of a Case

WDH will assist childcare facilities and schools in implementing the steps below.

1. Immediately call WDH at 888-996-9104 if you learn of a student or staff member with confirmed or suspected measles in your school or childcare facility. This includes children who become sick at your facility and show signs and symptoms of measles. If WDH becomes aware of a student or staff member with measles, WDH will contact the facility as soon as possible.



2. Isolate the suspected or confirmed individual. Epidemiologists at WDH will work with your team to help the student or staff member who is infected with measles isolate appropriately and stay at home away from others and away from all public places, including childcare, school, work, social activities, sports, recreation events, and all extracurricular activities. Students and staff who are in isolation should not be allowed in the school or childcare building until 4 days have passed since their rash began and they are physically able to return to school or work (rash onset is day 0, and isolation should be maintained through day 4 after rash onset). While in isolation, individuals with measles or suspected measles should stay at home and away from others.
3. Identify exposed individuals within the facility and exclude students and staff without measles immunity (See Algorithm for Exposed Individuals below).

Exposure means sharing an airspace with someone with measles (including for up to 2 hours after the person with measles has left an area). Exclusion means a student or staff member is not allowed to attend school or any extracurricular school activities, such as childcare, clubs, and sports. Epidemiologists will work with the school or childcare facility to determine potential exposures and which students and staff need to be excluded. All exposed students and staff without documentation of measles immunity should be excluded from school and childcare, regardless of documentation of an exemption or waiver on file for medical or religious reasons.

 - a. Persons with measles are considered infectious from 4 days prior to rash onset through 4 days after rash onset. WDH will work with the school or childcare facility to identify individuals exposed during this timeframe.
 - b. Students and staff without measles immunity:
 - i. This includes students and staff who have received 0 doses of the MMR vaccine, no documentation of prior measles infection, no documentation of positive measles serology, and were born after 1957.
 - ii. If students and staff older than 12 months of age without measles immunity receive one documented dose of MMR within 72 hours after their initial exposure to measles, they may return to the facility immediately. A second dose of MMR will need to be received at least 28 days later to complete the 2-dose series. It should be noted that in many cases, 72 hours will have already passed between the initial exposure and diagnosis of measles.
 - iii. Students and staff without measles immunity who do not receive a dose of MMR within 72 hours of initial exposure (they refuse or are unable), including those who have a medical or religious exemption to



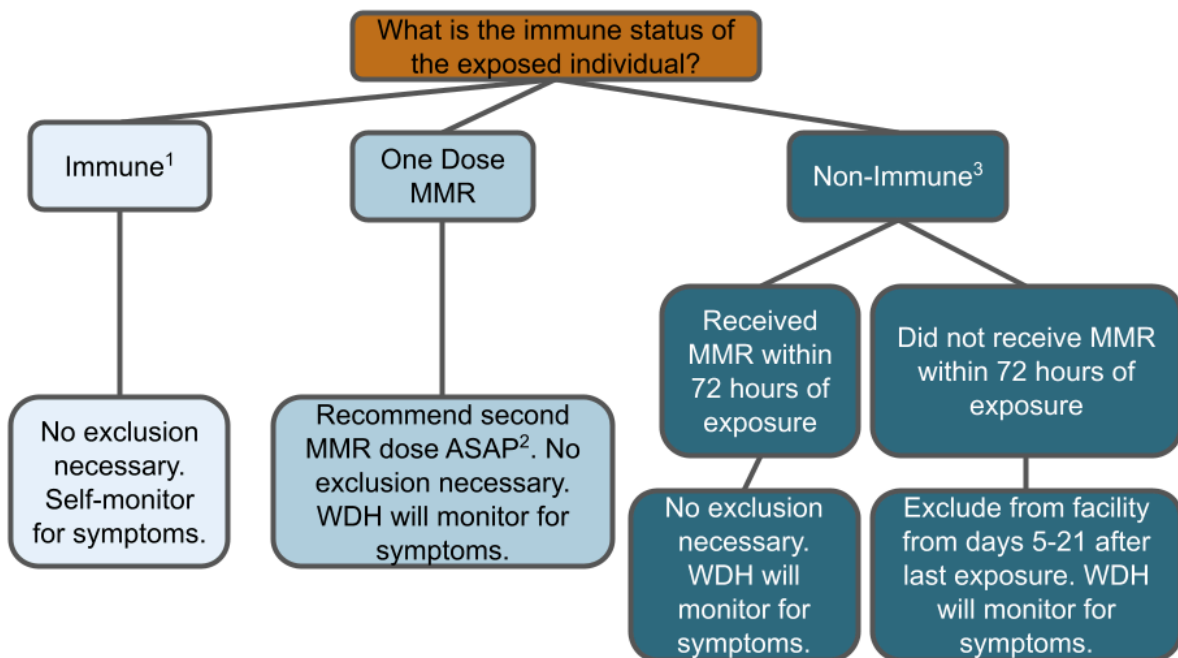
vaccination, should be excluded from school from day 5 through day 21 after their exposure. If these individuals receive positive measles serology testing results during this time frame, they may return immediately. Please note that the 21-day timeframe resets with each new case to which a non-immune person is exposed. Furthermore, if there is evidence of ongoing transmission within the facility, non-immune students and staff may need to be excluded for longer than 21 days. WDH will provide guidance in these situations.

- iv. WDH will monitor exposed non-immune individuals for signs and symptoms of measles from day 5 through day 21 after exposure
- v. Infants aged 6-11 months without a history of MMR vaccination who are exposed to measles and receive a dose of MMR within 72 hours of exposure may return to childcare. These children will need to be vaccinated again according to the routine schedule (i.e., two additional doses, with the first between 12-15 months of age. All doses of MMR must be separated by at least 28 days.) Infants aged 6-11 months without a history of MMR vaccination who do not receive a dose of MMR within 72 hours of exposure should be excluded from the childcare facility from day 5 through 21 after the last known exposure.
- vi. Infants aged 0-5 months are too young to receive MMR after exposure to measles and should be excluded from the childcare facility from day 5 through day 21 after the last known exposure.
- c. Students and staff with one dose of the measles vaccine:
 - i. Students and staff older than 12 months of age who have previously received one dose of MMR vaccine should receive a second dose of MMR as soon as possible after a measles exposure, as long as it has been at least 28 days since the first dose. Exclusion from the facility is not necessary, but WDH will monitor these individuals for signs and symptoms of measles from day 5 through 21 after their last exposure.
 - ii. It should be noted that exclusion of students and staff with 1 dose of MMR may be recommended in the future if there is evidence that these individuals are susceptible to measles infection in childcare and school settings.
- d. Students and staff with documentation of 2 age-appropriate doses of MMR vaccine, documentation of positive measles serology, documentation of previous measles illness, or birth before 1957:



- i. No exclusion is required for students and staff with documented immunity against measles, though WDH recommends that these individuals self-monitor for symptoms for days 5 through 21 after exposure.
- 4. Notification
 - a. All individuals exposed to measles, regardless of their measles immune status, should be notified of the exposure.
 - b. WDH will work with impacted facilities to notify students, staff, and families about any potential exposure in the facility. WDH can provide letter templates for facilities to send to students, staff, and families.

Algorithm for Exposed Individuals Greater than 12 months of Age



1. For the purposes of this algorithm, a person is immune if they have received 2 appropriate doses of MMR, have documentation of measles immunity (positive serology), documentation of previous measles disease, or were born before 1957.
2. All MMR doses must be separated by at least 28 days.
3. For the purposes of this algorithm, a person is non-immune if they have received 0 doses of MMR vaccine, do not have documentation of measles immunity, do not have documentation of previous measles disease, and were born after 1957.

