

2025 NEVADA STATE IMMUNIZATION PROGRAM'S MEASLES RESOURCE GUIDE

INTRODUCTION

Measles is a highly contagious viral disease that poses a serious threat due to recent outbreaks. This guide provides critical information to help healthcare providers, educators, and families prevent and control the spread of measles in Nevada.

What is Measles?

- Measles is a highly contagious and acute viral disease caused by the measles virus. Humans are the only natural host for the measles virus.
- Outbreaks occur when unprotected people become infected and infect others who are not protected (either through vaccination or immunity from past disease). Measles is rare in the United States but can result in serious complications, such as hearing loss, pneumonia, seizures, brain damage, and death.

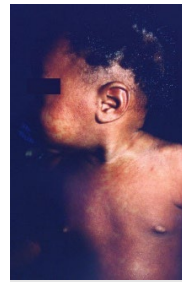
Source: <https://www.cdc.gov/measles/about/index.html>



[Koplik Spots](#)



[Measles rash](#)



[Measles rash](#)

Signs and symptoms

- Fever, cough, runny nose, and red, watery eyes
- Appearance of rash at hairline spreading downward over body (appearance can vary by skin tone)
- Koplik's spots (tiny white spots with bluish-white centers found inside the mouth)
- Diarrhea, pneumonia, or ear infections

Incubation period

- Usually 8-14 days (range of 7-21 days) from exposure to onset of symptoms. In rare circumstances, a person who is immunocompromised may have a longer incubation period.

Source: [CDC - Measles Signs & Symptoms](#)

Contagious period and spread

- Contagious period: From four days before the rash appears until four days after the appearance of the rash.
- Spread through airborne route: Breathing small particles containing virus floating in the air. These particles travel along air currents and can infect people in another room.
- The virus remains airborne and infectious for up to two hours in a closed space after an infected person has left.

- The virus is transmitted by direct contact with infectious droplets or by airborne spread when an infected person breathes, coughs, or sneezes. Measles virus can remain infectious in the air and on surfaces for up to 2 hours after an infected person leaves an area.
- Even brief exposure or shared airflow poses a high risk of infection for people who have not had the disease before, have not been protected by the measles vaccine, or who have a problem with their immune system.

Source: <https://www.cdc.gov/han/2025/han00522.html>

Control of spread

- Measles is a vaccine-preventable infection. Immunize according to current recommendations. Review immunization status of all children and staff members.
- If a child attends a school or childcare facility while infectious, public health will work with the facility to provide recommendations on disease control activities and possible exclusion of un- or under-immunized students and staff.
- Use good hand-hygiene techniques at all times and routine infection control measures.
- Do not transfer sick children to other facilities.

Sources: <https://www.cdc.gov/measles/causes/index.html> and [School and Child Care Guidelines](#)

MMR VACCINE SAFETY & EFFECTIVENESS:

- The **measles, mumps, and rubella (MMR) vaccine is safe and highly effective:**
 - **One dose: 93% effective** at preventing measles.
 - **Two doses: 97% effective** ([CDC](#))
- The vaccine has been used for over **50 years** and has an **excellent safety record**.
- **Mild side effects** may include soreness, fever, or mild rash. **Serious side effects are extremely rare.**

Source: [Measles, Mumps, Rubella \(MMR\) Vaccine Safety - CDC](#)

ROUTINE CHILD/ADOLESCENT RECOMMENDATIONS:

- Measles, mumps, rubella (MMR) vaccine is routinely given to children at 12-15 months of age, with a second dose at 4-6 years of age.
- Unvaccinated children and adolescents should receive two doses, at least four weeks apart.

ROUTINE ADULT/OTHER RECOMMENDATIONS:

- Adults with no evidence of immunity for measles should receive at least one dose of MMR vaccine.
 - Evidence of immunity includes people born before 1957 (except for health care personnel), documentation of receipt of MMR vaccine, or laboratory evidence of immunity or disease.
- Certain adults [may need 2 doses](#). Adults who are going to be in a setting that poses a high risk for measles or mumps transmission should make sure they have had two doses separated by at least 28 days. These adults include students at post-high school education institutions, health care personnel, and international travelers.

Treatment

- There is no specific treatment for measles. People without immunity who have a known exposure to measles can receive post-exposure prophylaxis to reduce the severity of disease.

Exclusion

- **Exclude** children with measles until four days after the rash starts when they are no longer contagious. Measles is a highly contagious infection; Children with suspected measles should be promptly isolated and referred to a healthcare provider for confirmation and management. Children with measles should stay home from school or childcare until at least four full days after the beginning of the rash, when they are no longer contagious.
- **Exclude** exposed children and staff who are not immunized (or who are incompletely immunized for their age) until they become immunized. If they are not immunized because of an exemption, exclude them until the local health department determines it is safe for them to return.

Source: [Expanding Measles Outbreak in the United States and Guidance for the Upcoming Travel Season | CDC](#)

POST-EXPOSURE PROPHYLAXIS (PEP) FOR MEASLES:

For information on Post-Exposure Prophylaxis (PEP) for Measles, please visit the CDC [here](#) or the National Institutes of Health (NIH) [here](#).

If someone is exposed to measles and is not fully vaccinated, they may still have options to prevent illness.

ROLE OF TEACHERS, CAREGIVERS, AND FAMILY:

- Encourage routine vaccination. Review and ensure all children have received MMR vaccine according to current immunization recommendations.
- Immediately report the infection to the local or state health department. If the health professional who makes the diagnosis does not inform the local health department that the infected child is a participant in a child care program or school, this could delay controlling the spread.
 - [Measles in the United States Recommendations for Health Care Providers | Nevada Department of Health and Human Services Technical Bulletin](#)
- Report the infection to the staff member designated by the childcare program or school for decision-making and action related to the care of ill children. That person, in turn, alerts possibly exposed family and staff members and parents/guardians of unimmunized children to watch for symptoms and notifies the health consultant.
- Ensure staff members who have had fewer than two doses of vaccine are properly immunized unless documented to have had the disease or were born before 1957. Individuals born before 1957 are presumed to be immune because measles was widespread before the vaccine became available, although being in this group is not a guarantee of immunity. A laboratory test is available for testing immunity.
- During investigation of a suspect case, exposed children with weakened immune systems or who have not received routine MMR vaccine may be excluded from the facility. In an outbreak, if public health makes a recommendation, infants aged 6-11 months can be immunized and then re-immunized at the age-appropriate time. Immunization at 12 months is still necessary because the child's immunity from the

previous dose of vaccine may be blocked by the birthing parent's measles antibodies which cross the placenta during pregnancy.

Source: [Measles](#) | CDPHE

CLINICAL GUIDANCE:

Source: [Red Book Online Outbreaks: Measles](#) | [Red Book Online](#) | [American Academy of Pediatrics](#)

Presentation

- Consider measles in patients with fever and rash and ask about recent international travel, exposure to international travelers, or exposure to people with measles. Patients may have non-specific symptoms (fever, cough, coryza, conjunctivitis) without rash in the prodromal phase of infection, so heightened suspicion, particularly during local outbreaks or in patients with recent travel, can be key to timely diagnosis. The incubation period between exposure and initial symptoms is approximately 8-12 days. **For images of rash see the *Red Book* chapter on [Measles](#).**

Diagnosis

- Measles virus infection can be confirmed by: (1) detection of measles viral RNA by reverse transcriptase-polymerase chain reaction (RT-PCR); (2) detection of measles virus-specific immunoglobulin (Ig) M; (3) a fourfold increase in measles IgG antibody concentration in paired acute and convalescent serum specimens (collected at least 10 days apart); or (4) isolation of measles virus in cell culture.

Who is at highest risk of acquiring measles infection

- People at high risk for complications include:
 - Infants and children aged <5 years
 - Adults aged >20 years
 - Pregnant women
 - People with weakened immune systems, such as from leukemia and HIV infection

Source: [CDC - Clinical Overview of Measles - Who Is At Risk](#)

Complications

Measles can cause serious illness, even in previously healthy children. Complications of measles can include:

- Ear infections
- Diarrhea
- Pneumonia (either from measles virus itself or from bacterial superinfection)
- Encephalitis
- Death
- In addition, measles infection increases the risk of other severe infections for months or years after measles through the mechanism of immune amnesia.

Infection Prevention and Control Recommendations

- For more information on the Interim Infection Prevention and Control Recommendations for Measles, please visit - [Interim Infection Prevention and Control Recommendations for Measles in Healthcare Settings | Infection Control | CDC](#)

Prevention of measles

- Vaccination is the cornerstone of measles prevention. All children should receive measles vaccination as part of the routine childhood vaccine schedule. Unimmunized or incompletely immunized children should begin catch-up vaccination as soon as possible in consultation with a trusted healthcare provider. During an outbreak, MMR vaccine should be offered to all people with known exposure or in the outbreak community who lack evidence of measles immunity. During a community-wide outbreak that affects infants, MMR vaccine has been shown to be effective in preventing symptoms after exposure and may be recommended for infants 6 through 11 months of age. Children who receive their first MMR vaccine prior to 12 months of age will require two additional doses after 12 months of age for full protection. For more information on the prevention of measles, please visit - [Increased Incidence of Measles in United States, Recommendations for Health Care Providers](#)

Treatment

- There is no specific antiviral agent for treatment of measles infection. Treatment of children with measles with oral vitamin A under a provider's care only can decrease measles-related morbidity and mortality. Dosing of vitamin A for treatment of children with measles can be found in the **Red Book** chapter on [Measles](#).

Reporting

- For more information on reporting requirements, please visit:
 - [Increased Incidence of Measles in United States, Recommendations for Health Care Providers](#)

MEASLES RESOURCES:

- [Questions About Measles | Measles \(Rubeola\) | CDC](#)
- [Chapter 13: Measles | Pink Book | CDC](#)
- [Measles, Mumps, and Rubella \(MMR\) Vaccination | CDC](#)
- [MMR Vaccination Resources For Providers | CDC](#)
- [Expanding Measles Outbreak in the US and Guidance for the Upcoming Travel Season \(HAN\) | CDC](#)
- [Measles: What Parents Need to Know – HealthyChildren.org](#)
- [Talking with Parents About Vaccines | CDC](#)
- [Watch this CDC video to learn more about the signs and symptoms of measles to quickly diagnose infected patients | CDC YouTube](#)
- [Frequently Asked Questions about Measles | CDC](#)
- [MMR Vaccine VIS | Vaccines & Immunizations | CDC](#)
- [Preventing Spread of Infections in K-12 Schools | CDC](#)

- [Ways Schools Can Support Routine Vaccination Catch-Up Among School-Aged Children | Public Health Foundation \(PHF\)](#)
- [How Early Care and Education Can Help Children Keep Their Vaccinations Up-to-Date | PHF](#)