

Wyoming Drug Utilization Review

Measles Resurgence: Clinical Recognition and Treatment

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Measles (rubeola) is a highly contagious respiratory virus that has seen a significant resurgence in the United States.¹ Following its elimination in 2000, recent vaccination rate declines have led to a sharp increase in cases. The largest outbreaks have occurred in 2025 and 2026, with confirmed cases rising from 285 in 2024 to 2,289 in 2025. As of August 13, 2026, 2,566 cases have been reported for the current year. Prior to universal vaccination, the virus caused millions of infections and significant mortality annually.²

Yearly measles cases

as of August 13, 2026



The disease progresses through three distinct stages. The incubation stage lasts 6 to 21 days and is characterized by the absence of symptoms. This is followed by a prodrome phase lasting 2 to 4 days, which begins with high fever and malaise, followed by the "three Cs": cough, coryza, and conjunctivitis. During this stage, Koplik spots (which appear as 1 to 3 mm white or blue elevations on the buccal mucosa) may develop 1 to 3 days before the rash appears and persist for 12 to 72 hours. Finally, the exanthem stage occurs 2 to 4 days after the onset of fever. It presents as an erythematous, macropapular, blanching rash that typically starts on the face and spreads caudally to the neck, trunk, and extremities. The rash eventually darkens to a brownish hue before fading within 7 days. Patients are considered contagious from 5 days before the rash appears until 4 days after.⁴

Complications are most frequent in infants, pregnant patients, and the immunocompromised. Common complications include pneumonia (1-6%), diarrhea (8-10%), otitis media (7-9%), and keratitis (3-10%). Encephalitis, though rare (1 per 1000 cases), carries a high mortality rate.⁵

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Vaccination remains the primary strategy for disease prevention. The Centers for Disease Control and Prevention (CDC) recommends a 2-dose series of MMR or MMRV vaccines. The first dose should be administered at 12–15 months, and the second at 4–6 years before the child enters the public school system. All eligible individuals born after 1957 are recommended to receive measles vaccination. Catch-up schedules involve two doses at least 4 weeks apart. The MMRV vaccine is generally avoided for individuals over 12 years of age. As a live attenuated vaccine, it is contraindicated in pregnancy and severe immunocompromise.⁶

Measles has no available proven antiviral treatments. The most influential treatment strategy is preventing disease contraction through the use of vaccines and providing supportive care to infected individuals. The United States has a highly effective vaccine schedule for measles. The available choices are the MMR and MMRV vaccines. After the first dose of the vaccine, it is about 93% effective at preventing measles. After the second dose the vaccine is about 97% effective.⁶

Post exposure prophylactic measles vaccine administration is recommended for unvaccinated or inadequately vaccinated individuals within 72 hours of a known exposure to measles. Immune globulin administration is recommended within 6 days of exposure for those who are pregnant, immunocompromised, are <6 months of age, or are otherwise contraindicated to the measles vaccine.^{5,10,11}

Oral vitamin A supplementation has mixed results in studies but may be beneficial for reducing measles severity and complication rates. Vitamin A supplementation may reduce mortality in children <2 years old.⁷ While the World Health Organization (WHO) recommends administering vitamin A to all individuals suspected of measles to potentially reduce infection severity, the CDC advises limiting this supplementation to hospitalized children or those with severe measles cases.⁸ In patients who are recommended to receive vitamin A, the CDC recommends following the WHO dosing recommendations.⁹

The WHO recommends all children under 5 years old should receive 2 doses of vitamin A utilizing age based dosing. The first dose should be given immediately upon diagnosis and the dose should be repeated the next day.

Age	Units Per Dose
Infants <6 months:	50,000 IU
Infants 6-11 months:	100,000 IU
Children 12-59 months:	200,000 IU

Ribavirin has demonstrated antiviral activity against measles in vitro, but lacks clinical data for use in measles. Ribavirin has been used off-label for patients who are severely immunocompromised or have severe measles disease. Neither the WHO or the CDC recommend routine use of ribavirin due to the lack of available evidence.^{8,9}

A major driver of the measles resurgence in America is lower vaccination rates. Vaccination hesitancy is often a sensitive and charged topic, which can be a challenging issue for health care providers to address. Proven strategies to increase vaccination rates are to initially utilize presumptive communication and if resistance arises utilize motivational interviewing to identify and navigate concerns. To effectively communicate with patients who are vaccine hesitant it is important to build trust and rapport while avoiding reaffirming concerns in order to provide nonconfrontational education.¹²

References

1. Kondamudi NP, Tobin EH, Waymack JR. Measles. [Updated 2025 May 5]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2026. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK448068/>. Accessed: August 24, 2026.
2. Centers for Disease Control and Prevention. History of Measles. [Updated 2026 Apr 29]. Centers for Disease Control and Prevention [Internet]; 2026. Available from: <https://www.cdc.gov/measles/about/history.html>. Accessed: August 24, 2026.
3. Centers for Disease Control and Prevention. Measles Cases and Outbreaks. [Updated 2026 Aug 21]. Centers for Disease Control and Prevention [Internet]; 2026. Available from: <https://www.cdc.gov/measles/data-research/index.html>. Accessed: August 24, 2026.
4. Gans H, Maldonado YA, Kaplan SL. Measles: Clinical manifestations, diagnosis, treatment, and prevention. In: UpToDate [database online]. Waltham (MA): UpToDate Inc.; 2026. Available from: <https://www.uptodate.com>. Accessed: August 24, 2026.
5. Do LAH, Mulholland K. Measles 2025. N Engl J Med. 2025; 393(24): 2447-2458. Available from: <https://doi.org/10.1056/NEJMr2504516>.
6. Centers for Disease Control and Prevention. Measles Vaccine Recommendations. [Updated 2024 May 16]. Centers for Disease Control and Prevention [Internet]; 2024. Available from: <https://www.cdc.gov/measles/hcp/vaccine-considerations/index.html>. Accessed: August 24, 2026.
7. Huiming Y, Chaomin W, Meng M. Vitamin A for treating measles in children. Cochrane Database Syst Rev. 2005; (4): CD001479. Available from: <https://doi.org/10.1002/14651858.CD001479.pub3>
8. World Health Organization. Guide for clinical case management and infection prevention and control during a measles outbreak. Geneva: World Health Organization; 2020. Available from: <https://www.who.int/publications/i/item/9789240002869>. Accessed: August 24, 2026.
9. Centers for Disease Control and Prevention. Clinical Overview of Measles. [Updated 2024 May 15]. Centers for Disease Control and Prevention [Internet]; 2024. Available from: <https://www.cdc.gov/measles/hcp/clinical-overview/index.html>. Accessed: August 24, 2026.
10. Boom JA. Measles, mumps, and rubella in infants, children, and adolescents. In: UpToDate [database online]. Waltham (MA): UpToDate Inc.; 2026. Available from: <https://www.uptodate.com>. Accessed: August 24, 2026.
11. World Health Organization. Measles vaccines: WHO position paper – April 2017. Wkly Epidemiol Rec. 2017; 92(17): 205-228. Available from: <https://iris.who.int/handle/10665/255149>. Accessed: August 24, 2026.
12. Tuckerman J, Kaufman J, Danchin M. Effective Approaches to Combat Vaccine Hesitancy. Pediatr Infect Dis J. 2022; 41(5): e243-e245. Available from: <https://pubmed.ncbi.nlm.nih.gov/35213864/>. Accessed: August 24, 2026.

The P&T Committee met for its quarterly business meeting on August 20, 2026.

Highlights of this meeting include:

Tzield will be approved for the expanded indication to delay the decline in endogenous insulin in patients aged 8 – 17 years old newly diagnosed with stage 3 type 1 diabetes. Diagnosis must be made within 8 weeks of the request. Patient must have at least two positive pancreatic islet autoantibodies, and a minimum C-peptide level of 0.2 nmol/L. In addition, for the original indication in stage 2 type 1 diabetes, prior authorization will be required for patients over 45 years of age as there is no data supporting safety or efficacy in this population.

Saphnelo, Bysanti, Idvynso, Xtoro, Nuzyra and Jascayd were limited to indication and referred to the Department of Health for cost analysis and PDL placement.

Hepcludex and Xocova were limited to indication.

Baxfendy will be approved for patients who are uncontrolled on at least two antihypertensive agents from different classes plus a diuretic.

All prior authorization criteria are open for public comment. Comments should be sent by email to alewis13@uwyo.edu by September 30, 2026.

The next P&T Committee meeting will be held November 12, 2026 in Cheyenne. An agenda will be posted approximately two weeks prior to the meeting.

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