

Nebraska Department of Health and Human Services

Health Alert Network

ADVISORY

Increase in Global and Domestic Measles Cases and Outbreaks: Ensure Children in the United States and Those Traveling Internationally Six Months and Older are Current on MMR Vaccination

Summary

Texas is currently experiencing a measles outbreak in Gaines County and surrounding counties. As of March 4, 2025, Texas has 159 cases, including one pediatric death. There are also measles cases in New Mexico, Kentucky, New Jersey, and Pennsylvania. Nebraska does not currently have any cases. Most cases reported in 2025 have been among children aged 12 months and older who had not received the measles-mumps-rubella (MMR) vaccine. Many countries, including travel destinations such as Thailand, India, and Indonesia, are also experiencing measles outbreaks. To prevent measles infection and reduce the risk of community transmission from importation, all U.S. residents traveling internationally, regardless of destination, should be current on their MMR vaccinations. Healthcare providers should ensure children are current on routine immunizations, including MMR. Given the currently high population immunity against measles in most U.S. communities, the risk of widescale spread is low. However, pockets of low coverage leave some communities at higher risk for outbreaks.

Background

Measles is a highly contagious viral illness that can cause severe health complications, including pneumonia, encephalitis (inflammation of the brain), and death, especially in unvaccinated persons. Measles typically begins with a prodrome of fever, cough, coryza (runny nose), and conjunctivitis (pink eye), lasting two to four days before rash onset. The incubation period for measles from exposure to fever is usually about 10 days (range seven to 12 days), while rash onset is typically visible around 14 days (range seven to 21 days) after initial exposure. The virus is transmitted through direct contact with infectious droplets or by airborne spread when an infected person breathes, coughs, or sneezes, and can remain infectious in the air and on surfaces for up to two hours after an infected person leaves an area. Individuals infected with measles are contagious from four days before the rash starts through four days afterward.

Declines in measles vaccination rates globally have increased the risk of measles outbreaks worldwide, including in the United States. Measles cases continue to be brought into the United States by travelers who are infected while in other countries. As a result, domestic measles outbreaks have been reported in most years, even following the declaration of U.S. measles elimination in 2000. Most importations come from unvaccinated U.S. residents.

Measles is almost entirely preventable through vaccination. MMR vaccines are safe and highly effective, with two doses being 97% effective against measles (one dose is 93%

effective). When more than 95% of people in a community are vaccinated (coverage >95%) most people are protected through community immunity (herd immunity). However, vaccination coverage among U.S. kindergartners has decreased from 95.2% during the 2019–2020 school year to 93.1% in the 2022–2023 school year, leaving approximately 250,000 kindergartners susceptible to measles each year over the last three years (<https://www.cdc.gov/mmwr/volumes/72/wr/mm7245a2.htm>). Thirty- six states plus the District of Columbia (DC) had less than 95% MMR coverage among kindergartners during the 2022–2023 school year. Of states with less than 95% MMR coverage, 10 reported more than 5% of kindergartners had medical and nonmedical exemptions, highlighting the importance of targeted efforts at increasing vaccine confidence and access (<https://www.cdc.gov/vaccines/partners/vaccinate-with-confidence.html>).

Recommendations for Healthcare Providers

- Schools, early childhood education providers, and healthcare providers should work to ensure students are current with MMR vaccine (<https://www.cdc.gov/measles/vaccines/index.html>).
 - Children who are not traveling internationally should receive their first dose of MMR at age 12 to 15 months and their second dose at four to six years.
- All U.S. residents older than age six months without evidence of immunity who are planning to travel internationally should receive MMR vaccine prior to departure.
 - Infants aged six through 11 months should receive one dose of MMR vaccine before departure. Infants who receive a dose of MMR vaccine before their first birthday should receive two more doses of MMR vaccine, the first of which should be administered when the child is age 12 through 15 months and the second at least 28 days later.
 - Children aged 12 months or older should receive two doses of MMR vaccine, separated by at least 28 days.
 - Teenagers and adults without evidence of measles immunity should receive two doses of MMR vaccine separated by at least 28 days.
- At least one of the following is considered evidence of measles immunity for international travelers: 1) birth before 1957, 2) documented administration of two doses of live measles virus vaccine (MMR, MMRV, or other measles-containing vaccine), or 3) laboratory (serologic) proof of immunity or laboratory confirmation of disease.
- Consider measles as a diagnosis in anyone with fever ($\geq 101^{\circ}\text{F}$ or 38.3°C) and a generalized maculopapular rash with cough, coryza, or conjunctivitis who has recently been abroad, especially in countries with ongoing outbreaks. When considering measles, then:
 - **Isolate:** Do not allow patients with suspected measles to remain in the waiting room or other common areas of a healthcare facility; isolate patients with suspected measles immediately, ideally in a single-patient airborne infection isolation room (AIIR) if available, or in a private room with a closed door until an AIIR is available. Healthcare providers should be adequately protected against measles and should adhere to standard and airborne precautions when evaluating suspect cases, regardless of their vaccination status. Healthcare providers without evidence of immunity should be excluded from work from day five after the first exposure until day 21 following their last exposure. Offer testing outside of facilities to avoid transmission in healthcare settings. Call ahead to ensure immediate isolation for patients referred to hospitals for a higher level of care.

- **Notify:** Immediately notify state, tribal, local, or territorial health departments (24-hour Epi On Call contact list located at <https://libraries.cste.org/after-hours-contact/>) about any suspected case of measles to ensure rapid testing and investigation. States report measles cases to CDC.
- **Test:**
 - Providers should collect a nasopharyngeal swab or throat swab, urine for reverse transcription polymerase chain reaction (RT-PCR), and a blood specimen for serology.
 - Collect blood in a Serum Separator Tube (Gold top) or in a Clot Tube (Red top). Separate serum following manufacturer's guidance.
 - Respiratory specimens, urine, and serum are stable at 2-8°C for up to 48 hours.
 - RT-PCR and serology (IgG and IgM) are available at Mayo, Quest, and LabCorp.
 - IgG testing is available at many local hospital laboratories if evidence of immunity testing is required.
 - If a patient is insured and does not have any concerning exposures, the RT-PCR and serology laboratory testing should be performed by a commercial laboratory or local laboratory.
 - If a patient is uninsured or has concerning exposures like travel to Gains County, Texas or exposure to a known measles case, the Nebraska Department of Health and Human Services (NeDHHS) will pay for the testing.
 - Specimens will need to be sent on ice packs to the Nebraska Public Health lab (NPHL). NPHL collaborates with the regional VPD lab in Minnesota for PCR testing.
 - Providers MUST get prior approval from the NeDHHS before sending specimens to NPHL. Of note, the regional VPD lab only performs PCR testing and not serology testing so the serum will need to be sent to a commercial lab (for IgG and IgM) or a local laboratory (for IgG).
- **Manage:** In coordination with local or state health departments, provide appropriate measles post-exposure prophylaxis (PEP) as soon as possible after exposure to close contacts without evidence of immunity, either with MMR (within 72 hours) or immunoglobulin (within six days). The choice of PEP is based on elapsed time from exposure or medical contraindications to vaccination (<https://www.cdc.gov/measles/hcp/vaccine-considerations/index.html#:~:text=There%20are%20two%20types%20of%20within%206%20days%20of%20exposure.>).

Recommendations for Health Departments

Measles is an immediately notifiable disease. State, tribal, local, and territorial health departments have the lead in disease investigations and should report measles cases and outbreaks within 24 hours through the state health department to CDC

(measlesreport@cdc.gov) and through NNDSS

(<https://www.cdc.gov/nndss/about/index.html>).

- Establish measles case reporting from healthcare facilities, providers, and laboratories to public health authorities.
- If measles is identified, conduct active surveillance for additional (secondary) cases and facilitate transportation of specimens immediately to confirm diagnosis.

- Record and report details about cases of measles, including adherence to recommended precautions and facility location(s) of index and secondary cases.
- Enhance outreach and communications to under-vaccinated communities through trusted messengers.
- Blood can be collected to obtain serum for immune status testing of contacts if needed.

Recommendations for Parents and International Travelers

- Even if not traveling, ensure children receive all recommended doses of MMR vaccine. Two doses of MMR vaccine provide better protection (97%) against measles than one dose (93%). Getting MMR vaccine is much safer than getting measles, mumps, or rubella.
- Anyone who is not protected against measles is at risk of getting infected when they travel internationally. Before international travel, check your destination (<https://wwwnc.cdc.gov/travel/destinations/list>) and CDC's Global Measles Travel Health Notice (<https://wwwnc.cdc.gov/travel/notices/level1/measles-globe>) for more travel health advice, including where measles outbreaks have been reported.
- Parents traveling internationally with children should consult with their child's healthcare provider to ensure that they are current with their MMR vaccinations at least two weeks before travel. Infants aged six to 11 months should have one documented dose and children aged 12 months and older should have two documented doses of MMR vaccine before international travel. Depending on where you are going and what activities you plan, other vaccines may be recommended too.
- After international travel, watch for signs and symptoms of measles for three weeks after returning to the United States. If you or your child gets sick with a rash and a high fever, call your healthcare provider. Tell them you traveled to another country and whether you or your child have received MMR vaccine.

For More Information

- Parents and International Travelers
 - **Measles Vaccines for Children:** <https://www.cdc.gov/measles/vaccines/index.html>
 - **Plan for Travel Measles:** <https://www.cdc.gov/measles/travel/index.html#:~:text=You%20should%20plan%20to%20be,provide%2097%25%20protection%20against%20measles>
 - **Global Measles Situation:** <https://wwwnc.cdc.gov/travel/notices/level1/measles-globe>
- Health Departments and Public Health Professionals
 - **Measles: Information for Public Health Professionals:** <https://www.cdc.gov/measles/php/guidance/index.html>
 - **Vaccine Preventable Diseases from APHL:** https://www.aphl.org/programs/infectious_disease/Pages/VPD.aspx
- Healthcare Providers
 - **Measles One-Pager for Healthcare Providers:** <https://downloads.aap.org/AAP/PDF/ThinkMeasles-final.pdf>
 - **Immunization Schedules:** <https://www.cdc.gov/vaccines/hcp/imz-schedules/index.html>
 - **Safety Information for Measles, Mumps, Rubella (MMR) Vaccines:** https://www.cdc.gov/vaccine-safety/vaccines/mmr.html?CDC_AAref_Val=https://www.cdc.gov/vaccinesafety/vaccines/mmr-vaccine.html

- **For Healthcare Professionals:** <https://www.cdc.gov/measles/hcp/clinical-overview/index.html>
- **Interim Measles Infection Prevention Recommendations in Healthcare Settings:** <https://www.cdc.gov/infection-control/hcp/measles/index.html>
- **Nebraska ICAP Infection Control Recommendations:** <https://icap.nebraskamed.com/pathogens-of-interest/measles/>
- **Measles – Vaccine Preventable Diseases Surveillance Manual:** <https://www.cdc.gov/surv-manual/php/table-of-contents/index.html>
- **Rubeola / Measles: CDC Yellow Book 2024:** <https://wwwnc.cdc.gov/travel/yellowbook/2024/infections-diseases/rubeola-measles>
- **Measles Lab Tools:** <https://www.cdc.gov/measles/php/laboratories/index.html>
- **Measles Serology:** <https://www.cdc.gov/measles/php/laboratories/serology.html>

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