

HEALTH ALERT NETWORK | HEALTH ADVISORY | May 22, 2025

Important Considerations for Measles Testing in Recently Vaccinated Individuals

The North Dakota Department of Health and Human Services (HHS) has noted an uptick in measles testing, including among recently vaccinated individuals. This is understandable, as heightened vigilance for measles is warranted when evaluating patients with febrile rash illnesses. While one dose of MMR vaccine is 93% effective against preventing measles and two doses are 97% effective, there have been a small number of [cases](#) of measles reported this year in the United States that do have a history of vaccination. However, it's important to recognize that the measles, mumps, and rubella (MMR) or MMRV vaccines can cause fever in up to 15% of recipients and a self-limited rash in up to 5%, typically 6–12 days post-vaccination.ⁱ

These vaccine-associated symptoms—rash, fever, and sometimes cough, coryza, or conjunctivitis—can mimic clinical measles infection and may meet the [CDC's clinical case definition](#). It is crucial to emphasize, however, that individuals with a vaccine-related rash are **not contagious**.ⁱⁱ

The CDC provides a helpful [flowchart](#) for clinicians to use when evaluating patients presenting with a rash. Clinicians are encouraged to assess whether symptoms are due to wild-type measles infection or a vaccine reaction. Key factors to consider include:

- Recent international travel
- Domestic travel to areas with active measles transmission
- Known exposure to a confirmed measles case within the past 21 days

In the absence of these epidemiological risk factors, measles testing of recently vaccinated individuals is generally **not recommended**, as it may lead to unnecessary concern and confusion. It also creates an unnecessary burden on public health resources. If testing is pursued, it is important to counsel patients or guardians on the limitations of post-vaccination testing. A positive result does not necessarily indicate wild-type measles infection.

If testing is performed, the patient should remain at home in isolation for four days following rash onset and may leave isolation on day five. HHS will contact recently vaccinated patients with positive measles results, but a full measles case investigation and contact tracing will only be initiated if epidemiologic risk factors are present.

Diagnostic Limitations

Serologic Testing (IgM/IgG):

- Within 6–45 days of MMR/MMRV vaccination, IgM and IgG results cannot reliably differentiate between vaccine response and measles infection.
- IgM may not appear until 8–14 days post-vaccination; IgG may not be detectable for up to three weeks.

PCR Testingⁱⁱⁱ:

- Vaccine-strain measles RNA can typically be detected by RT-qPCR (MeV assay) for up to 21 days after vaccination and occasionally longer.
- A positive MeV test indicates measles virus RNA but cannot distinguish between wild-type and vaccine-strain virus.

PCR-positive specimens will be forwarded by HHS to the Minnesota Department of Health for genotyping to determine if the virus is wild-type or vaccine-derived. Results from this testing may take 1–2 weeks.

For more information about measles in North Dakota, please visit the North Dakota Immunization Unit website at <https://www.hhs.nd.gov/immunizations/measles>.

ⁱ [Chapter 7: Measles | Manual for the Surveillance of Vaccine-Preventable Diseases | CDC](#)

ⁱⁱ [Toolkit-Measles-Clinical-Provider-Flowsheet.pptx](#)

ⁱⁱⁱ [Implications of Measles Inclusion by Commercial Syndromic Polymerase Chain Reaction Panels — United States, May 2022–April 2023 | MMWR](#)