



Communicable Disease Case Reporting and Investigation Protocol **Varicella (Chickenpox)**

I. Identification and definition of cases

A. Clinical description:

Varicella (chickenpox) is an illness with an acute onset of generalized, pruritic, vesicular rash typically consisting of 250 to 500 lesions in varying stages of development (papules, vesicles) and resolution (crusting), low-grade fever, and other systemic symptoms. The incubation period for varicella is usually 14–16 days, with a range of 10–21 days from exposure to rash onset. The infectious period for varicella is from 2 days before the rash appears (rash onset is day zero) until all of the vesicles have formed scabs, which usually occurs within 5 days.

In persons vaccinated with varicella vaccine who develop varicella more than 42 days after vaccination (breakthrough disease), the disease is almost always mild with fewer than 50 skin lesions and shorter duration of illness. The rash may also be atypical in appearance (maculopapular with few or no vesicles).

Varicella-zoster virus (VZV) remains in a latent state in human nerve tissue and reactivates in approximately 1 in 3 infected persons during their lifetime, resulting in herpes zoster (shingles). Herpes zoster presents as a red, painful, itchy, and blistering rash, typically in one area on one side of the body, in the distribution of 1 to 3 dorsal root ganglia. Herpes zoster does not have an incubation period and the infectious period lasts until all lesions have crusted over which typically is 7–10 days. Varicella and herpes zoster are caused by the same virus however the surveillance and control measures differ. This document focuses on the case reporting and investigation protocol for varicella.

B. Clinical criteria:

In the absence of a more likely alternative diagnosis:

- An acute illness with a generalized rash with vesicles (maculopapulovesicular rash), **or**
- An acute illness with a generalized rash without vesicles (maculopapular rash).

C. Laboratory criteria:

Confirmatory laboratory evidence

- Positive polymerase chain reaction (PCR) for VZV DNA (preferred), **or**
- Positive direct fluorescent antibody (DFA) for VZV DNA, **or**
- Isolation of VZV, **or**
- Significant rise (at least a four-fold rise or seroconversion) in paired acute and convalescent serum VZV immunoglobulin G (IgG) antibody.

Supportive laboratory evidence: Positive test for serum VZV IgM antibody.

Note: The categorical labels used here to stratify laboratory evidence are intended to support the standardization of case classifications for public health surveillance. The categorical labels should not be used to interpret the utility or validity of any laboratory test methodology.

D. Epidemiologic linkage

Confirmatory epidemiologic linkage evidence

- Exposure to or contact with a laboratory-confirmed varicella case, **or**
- Can be linked to a cluster or outbreak of varicella with one or more laboratory confirmed cases, **or**

- Exposure to or contact with a person with herpes zoster.

Presumptive epidemiologic linkage evidence: Exposure to or contact with a probable varicella case that had a generalized rash with vesicles.

E. Wisconsin surveillance case definition:

Probable:

- A case of varicella that meets the clinical description with a generalized rash with vesicles,
- or**
- A case of varicella that meets the clinic description with a generalized rash without vesicles **and**:
 - Confirmatory or presumptive epidemiologic linkage evidence, **or**
 - Supportive laboratory evidence.
- or**
- Meets health care record criteria* **and**:
 - Confirmatory or presumptive epidemiologic linkage evidence, **or**
 - Confirmatory or supportive laboratory evidence.

Confirmed:

- Meets the clinical description **and** has confirmatory laboratory evidence,
- or**
- Meets the clinical description with a generalized rash with vesicles **and** has confirmatory epidemiologic linkage evidence.

*A person whose health care record contains a diagnosis of varicella or chickenpox but no rash description.

II. Reporting

A. Wisconsin disease surveillance category II – Methods for reporting:

This disease shall be reported to the patient’s local health officer or Tribal health director or to the local health officer or Tribal health director’s designee within 72 hours of recognition of a case or suspected case, per Wis. Admin. Code § DHS 145.04 (3) (b). Report electronically through the Wisconsin Electronic Disease Surveillance System (WEDSS), or mail or fax a completed Acute and Communicable Disease Case Report ([F-44151](#)) to the address on the form.

B. Responsibility for reporting:

According to Wis. Admin. Code § [DHS 145.04\(1\)](#), persons licensed under Wis. Stat. ch. [441](#) or [448](#), laboratories, health care facilities, teachers, principals, or nurses serving a school or daycare center, and any person who knows or suspects that a person has a communicable disease identified in [Appendix A](#).

C. Clinical criteria for reporting:

Clinically compatible illness of varicella. Cases should be reported immediately upon consideration of varicella in the differential diagnosis. *Herpes zoster is not reportable.*

D. Laboratory criteria for reporting:

Laboratory evidence of varicella infection by PCR, culture, DFA, or serology.

III. Case investigation

A. Responsibility for case investigation:

It is the responsibility of the local or Tribal health department (LTHD) to investigate or arrange for investigation of suspected or confirmed cases as soon as is reasonably possible. A case investigation may include information collected by phone, in-person, in writing, or through review of medical records or communicable disease report forms, as necessary and appropriate.

B. Required documentation:

1. Complete the WEDSS disease incident investigation report, including appropriate, disease-specific tabs.
2. Upon completion of investigation, set WEDSS disease incident process status to “Sent to State.”

C. Additional investigation responsibilities

1. Contact your [Immunization Program Regional Representative](#).

IV. Public health interventions and prevention Measures

- A. In accordance with Wis. Admin. Code § [DHS 145.05](#), LTHDs should follow the methods of control recommended in the current editions of *Control of Communicable Diseases Manual*, edited by David L. Heymann, published by the American Public Health Association, and the American Academy of Pediatrics’ *Red Book: Report of the Committee on Infectious Diseases*, unless otherwise specified by the state epidemiologist.
- B. Begin investigation once LTHD is notified of suspected case of varicella. Be prepared to implement control measures as soon as needed or upon receipt of lab results.

V. Contacts for consultation

- A. [Local health departments and Tribal health agencies](#)
- B. [Regional Immunization Program representatives](#)
- C. Wisconsin Division of Public Health, Immunization Program: 608-267-9959
After hours number: 800-943-0003 (option 4)
- D. Wisconsin State Laboratory of Hygiene: 1-800-862-1013
After hours emergency number: 608-263-3280

VI. Related references

- A. Heymann DL, ed. Varicella/Herpes Zoster. In: *Control of Communicable Diseases Manual*. 21st ed. Washington, DC: American Public Health Association, 2022:
<https://ccdm.aphapublications.org/doi/abs/10.2105/CCDM.2745.151> .
- B. Committee on Infectious Diseases, American Academy of Pediatrics. David W. Kimberlin, MD, FAAP, ed. 2024. Red Book: 2024-2027 [Report of the Committee on Infectious Diseases](#) - 33rd Ed. American Academy of Pediatrics. ISBN 978-1-61002-734-2. eISBN 978-1-61002-735-9. ISSN 1080-0131. STAT!Ref Online Electronic Medical Library. Accessed 10/30/2024 10:46:39 AM CDT (UTC -05:00).
- C. Centers for Disease Control and Prevention. *Epidemiology and Prevention of Vaccine-Preventable Diseases*. Hall E., Wodi A.P., Hamborsky J., et al., eds. 14th ed. Washington, D.C. Public Health Foundation, 2021.
- D. Centers for Disease Control and Prevention. [Manual for the Surveillance of Vaccine-Preventable Diseases Varicella](#) website
- E. Centers for Disease Control and Prevention. Varicella Surveillance Worksheet. Retrieved October 30, 2024, from <https://www.cdc.gov/chickenpox/media/pdfs/appendix20-varicella-surv-wksht.pdf>

F. Wisconsin Immunization Program Varicella (Chickenpox) webpage