



Communicable Disease Case Reporting and Investigation Protocol **VARICELLA (CHICKENPOX) AND HERPES ZOSTER (SHINGLES)**

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 two days before the rash appears (rash onset is day zero) until all of the vesicles have formed scabs, which usually occurs within five 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).

Herpes zoster (shingles) is a recurrent infection that presents as a red, painful, itchy, and blistery rash, typically in one area on one side of the body, in the distribution of one to three 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.

Transmission for varicella occurs from person to person by direct contact with patients with either varicella or herpes zoster lesions or by airborne spread from respiratory secretions or lesions of persons with chickenpox.

B. Laboratory Criteria:

A laboratory-confirmed infection of varicella zoster virus (VZV) is defined by:

- Detection of varicella zoster virus (VZV) nucleic acid by polymerase chain reaction (PCR) (preferred method for rapid clinical diagnosis), **or**
- Other testing methods less frequently used due to lower sensitivity include direct fluorescent antibody (DFA), culture, or serology.

Laboratory confirmation is not usually indicated for herpes zoster; however, it may be useful for cases with less typical clinical presentations.

C. Wisconsin Surveillance Case Definition:

- **Confirmed:** A case of varicella that meets the clinical description and is laboratory confirmed, or a case that meets the clinical description and is epidemiologically linked to a confirmed or probable case (two probable cases that are epidemiologically linked are considered confirmed, even in the absence of laboratory confirmation).
- **Probable:** A case of varicella that meets the clinical description is not laboratory confirmed, and is not epidemiologically linked to another probable or confirmed case.

NOTE: Herpes zoster does not have a surveillance case definition and is not reportable.

II. REPORTING

A. Wisconsin Disease Surveillance Category II – Methods for Reporting: This disease shall be reported to the patient's local health officer or to the local health officer'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 day care 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 health department (LHD) 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. Wisconsin specific additional guidance for LHDs can be found on the Division of Public Health (DPH) website at <https://www.dhs.wisconsin.gov/publications/p0/p00610.pdf>
 - 2. Contact your Immunization Program Regional Representative:
<https://www.dhs.wisconsin.gov/lh-depts/counties.htm>

IV. PUBLIC HEALTH INTERVENTIONS AND PREVENTION MEASURES

- A. In accordance with Wis. Admin. Code § [DHS 145.05](#), local public health agencies 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. Refer to Wisconsin DPH’s Varicella Surveillance and Control Guidelines for detailed information on case and contact management at: <https://www.dhs.wisconsin.gov/publications/p0/p00610.pdf>
- C. Begin investigation once LHD 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: <https://www.dhs.wisconsin.gov/lh-depts/index.htm>
- B. Regional Immunization Program representatives: <https://www.dhs.wisconsin.gov/lh-depts/counties.htm>
- C. Bureau of Communicable Diseases, Immunization Program: 608-267-9959. After hours number 608-258-0099
- 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. In: *Control of Communicable Diseases Manual*. 20th ed. Washington, DC: American Public Health Association, 2015: 669-675.
- B. Pickering LK, ed. Varicella-Zoster Virus Infections. In: *Red Book: 2015 Report of the Committee on Infectious Diseases*. 30th ed. Elk Grove Village, IL: American Academy of Pediatrics, 2015: 846-860.
- C. Centers for Disease Control and Prevention. Epidemiology and Prevention of Vaccine-Preventable Diseases. Hamborsky J, Kroger A, Wolfe S, eds. 13th ed. Washington D.C. Public Health Foundation, 2015.

- D. Centers for Disease Control and Prevention. Manual for the Surveillance of Vaccine-Preventable Diseases
Varicella website: <https://www.cdc.gov/vaccines/pubs/surv-manual/chpt17-varicella.html>
- E. Centers for Disease Control and Prevention. Varicella Surveillance Worksheet. Retrieved July 24, 2017, from <https://www.cdc.gov/vaccines/pubs/surv-manual/appx/appendix20-varicella-surv-wksht.pdf>
- F. Wisconsin Immunization Program Varicella (Chickenpox) webpage:
<https://www.dhs.wisconsin.gov/immunization/varicella.htm>
- G. Wisconsin Immunization Program. (2017). *Varicella surveillance and control guidelines, P-00610*. Retrieved July 20, 2017, from <https://www.dhs.wisconsin.gov/publications/p0/p00610.pdf>