

CHICKENPOX (VARICELLA)

Wisconsin Division of Public Health Disease Surveillance Manual (EpiNet, February 2008)



I. IDENTIFICATION

A. CLINICAL DESCRIPTION: An illness with an acute onset of diffuse (generalized) maculo-papulovesicular rash without other apparent cause. In vaccinated persons 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).

B. REPORTING CRITERIA: Clinical diagnosis.

C. LABORATORY CRITERIA FOR CONFIRMATION:

- Isolation of varicella virus from a clinical specimen, **OR**
- Direct fluorescent antibody (DFA) – used for rapid diagnosis, **OR**
- Polymerase chain reaction (PCR), **OR**
- Significant (four-fold) rise in serum varicella IgG antibody level by any standard serologic assay

NOTES: Laboratory confirmation of cases of varicella is not routinely recommended; laboratory confirmation is recommended for fatal cases and in other special circumstances.

Testing using commercial kits for IgM antibody is not recommended since available methods lack sensitivity and specificity; false positive IgM results are common in the presence of high IgG levels.

D. WISCONSIN CASE DEFINITION:

- Confirmed:
 - A case that is laboratory confirmed or that meets the clinical case definition and is epidemiologically linked to a confirmed or probable case; **OR**

- Two probable cases that are epidemiologically linked.
- Probable: a case that meets the clinical case definition, is not laboratory confirmed, and is not epidemiologically linked to another probable or confirmed case.

NOTE: Epidemiologic-linkage is characterized by direct face-to-face contact. An epi-linked case is either a source case or same generation case. For epi-linked same generation cases, a common exposure is likely.

II. ACTIONS REQUIRED / PREVENTION MEASURES

A. WISCONSIN DISEASE SURVEILLANCE CATEGORY II: Report to the patient's local health officer on an Acute and Communicable Disease Case Report ([DPH 4151](#)) or other means within 72 hours of the identification of a case or suspected case.

B. EPIDEMIOLOGY REPORTS REQUESTED: Acute and Communicable Diseases Case Report ([DPH 4151](#)). Report varicella immunization history in the Morbidity Data section.

C. PREVENTION MEASURES:

Two doses of varicella vaccine are recommended for children aged ≥ 12 months, adolescents and adults without evidence of immunity.*

- A first dose of varicella vaccine is routinely recommended for all children at 12 – 15 months of age.
- A second dose of varicella vaccine is routinely recommended for all children at 4 – 6 years of age. However, it may be administered at an earlier age provided that the interval between the first and second dose is > 3 months.
- A second dose of varicella vaccine is recommended for children, adolescents and adults who previously received one dose.

*Evidence of immunity includes documentation of age-appropriate vaccination with varicella vaccine; laboratory evidence of immunity or laboratory confirmation of disease; birth in the United States before 1980 (except for health care providers); or diagnosis or verification of a history of varicella disease or herpes zoster by a health-care provider.

D. PUBLIC HEALTH INTERVENTIONS:

- Post-exposure prophylaxis: Varicella vaccine is recommended for post-exposure administration to unvaccinated persons without other evidence of immunity within 3 – 5 days of exposure. Pre- and post-licensure studies indicate that varicella vaccine is effective in preventing illness or

modifying varicella severity if administered within 3 days, and possibly up to 5 days, of exposure to rash.

- Secondary bacterial infection of pustules may occur. Maintain good hygiene, disinfect articles soiled by discharges from the nose, mouth, and vesicles.
- Children with uncomplicated chickenpox should be excluded from day care, school, medical offices and public places until vesicles become dry (usually after five days).
- The minimum public health response to outbreaks in childcare centers and schools should include informing parents and caregivers of the occurrence of the outbreak, providing them with information on varicella and its potential to cause severe complications, and providing information about the availability of vaccine. A sample letter to parents is provided at the end of this section.
- In places where susceptible children with known recent exposure must remain for medical reasons, the risk of spread to steroid treated or immunodeficient patients may justify quarantine of known contacts for at least 10-21 days after exposure.
- Exposed susceptible hospital staff should be either furloughed or excused from patient contact day 10 to day 21 after the onset of the rash in the index case.
- Premature infants and newborns of uninfected mothers are at increased risk of severe complications. Isolation of these infants from infected persons should be considered.
- Varicella zoster immune globulin (VZIG) given within 96 hours of exposure may prevent or modify disease in susceptible close contacts of cases. It is indicated for newborns of mothers who develop chickenpox within five days prior to or within 48 hours after delivery. The VZIG product currently used in the United States, VariZIG™, (Cangene Corporation, Winnipeg, Canada), is available under an Investigational New Drug Application Expanded Access protocol. VariZIG is a lyophilized presentation which, when properly reconstituted, is approximately a 5% solution of IgG that can be administered intramuscularly. VariZIG can be obtained 24 hours a day from the sole authorized U.S. distributor (FFF Enterprises, Inc., Temecula, CA) by calling 800-843-7477 or online at <http://www.fffenterprises.com>.

III. CONTACTS FOR CONSULTATION

A. BCDP / IMMUNIZATION SECTION: (608) 266-3031 or (608) 267-9959

B. REGIONAL STAFF: See Epinet Introduction: “[REGIONAL OFFICE CONTACTS](#)”.

C. WSLH / VIRUS SEROLOGY: (608) 262-0248

IV. RELATED REFERENCES

1. **“Chickenpox (varicella zoster)”** DPH Disease Fact Sheet Series, (Rev. 12/03)
<http://dhfs.wisconsin.gov/communicable/communicable/factsheets/Chickenpox.htm>
2. Heymann DL, ed. CHICKENPOX/HERPES ZOSTER. In: *Control of Communicable Diseases Manual*. 18 th ed. Washington , DC : American Public Health Association, 2004:94-100.
3. Prevention of Varicella - Recommendations of the Advisory Committee on Immunization Practices (ACIP). *MMWR*. 2007;56(RR-4):1-40.
4. Prevention of Varicella Updated Recommendations of the Advisory Committee on Immunization Practices (ACIP). *MMWR* 1999;48(RR-11):1-5.
5. Immunization Action Coalition. Ask the Experts. Varicella (chickenpox) at http://www.immunize.org/askexperts/experts_var.asp.

V. DISEASE TRENDS

YEAR	CASES
1999	3,344
2000	3,471
2001	2,128
2002	1,116
2003	1,010
2004	603
2005	487
2006	1111

The licensure of varicella vaccine, establishment of vaccination programs and increased use of vaccine began during the 1990’s. Routine vaccination of preschool children along with the addition of the varicella vaccine requirement in schools and day care centers in 2001 has reduced disease incidence. Enhanced surveillance is needed to monitor the impact of vaccination on the incidence of varicella, the age distribution and other demographic features of infected persons, and the associated morbidity and mortality. Statewide individual case reporting was recommended by CSTE by 2005. To support case-based varicella surveillance, ch. HFS 145 was amended to require varicella reporting via individual case reports effective March, 2008.

Sample

Letter to Parents and Caregivers informing them of outbreak and vaccine availability

Date
Sender's Name
Name of Health Department
Sender's Address
City, State Zip code
Telephone number

Dear parent or caregiver:

Some children attending the _____ (name of day care center or school) have contracted chickenpox. Although chickenpox usually not a serious illness, it often causes children to miss days at childcare or preschool while they have a rash and parents to miss work when they stay home to take care of their children. In some children, chickenpox may cause more serious illness and may even lead to death.

A vaccine that can prevent chickenpox (varicella vaccine) is now available and has been shown to be safe for children who are older than 12 months of age. Two doses of vaccine are recommended for children who have never had chickenpox. Usually, the 1st dose is given 12-15 months of age and the 2nd dose is given at 4-6 years of age. We would like to recommend that you contact your child's regular health care provider as soon as possible to discuss the use of varicella vaccine for your child.*

If your child does develop chickenpox, he or she should be kept from attending childcare until the rash has crusted over.

An information sheet about chickenpox and the varicella vaccine is included. We thank you for your cooperation and urge you to contact us at any time if you have questions regarding chickenpox or the vaccine.

Day Care Center or School Telephone number: _____

*If public clinics that provide vaccinations are in the vicinity, provide location and hours for the clinics.