

# Varicella (Chickenpox)

## Why is Varicella Important?

Chickenpox is a very contagious airborne disease caused by the varicella-zoster virus (VZV). It causes a vesicular/blister-like rash, itching, fatigue, and fever. Chickenpox can be serious, especially in infants less than 1 year of age, adults, and people with weakened immune systems. The best way to prevent chickenpox is to take two doses of the chickenpox vaccine.

## Varicella Overview

### Communicability

- **Transmission:** Airborne spread or direct contact to lesions
- **Infectious:** 1-2 days before rash onset until all lesions are scabbed over.  
*Communicability may be prolonged in persons with altered immunity*

### Testing

- PCR testing of vesicle fluid is the most reliable to diagnose varicella

### Treatment

- Acyclovir (IV) in non-immune immunocompromised persons, when administered within 24 hrs of rash onset.

### Prevention

- Best prevention is timely vaccinations.  
*See [vaccine schedule](#).*
- Administer **Varicella zoster immune globulin (VariZIG)** as soon as possible (within 10 days of exposure) to high risk persons only  
*See "Treatment" for additional guidance*

## Symptoms by Vaccination Status

### **Unvaccinated:**

- Rash of discrete, scattered, itchy, fluid-filled blisters/lesions that turn into scabs. Lesions can be in different stages of maturity.
- Progression: Starts on face, chest and back then spreads to rest of body.
- Typically lasts about 5-7 days.

### Other typical symptoms:

- Fever
- Loss of Appetite
- Headache
- Tiredness

### **Vaccinated or "Breakthrough" Chickenpox:**

- Usually have milder symptoms with fewer red spots or blisters and little to no fever
- Breakthrough chickenpox is more common in persons with one varicella dose than two varicella doses.

## Complications

### Varicella may be more severe in adolescents and adults.

#### Common Complications

- Bacterial infections of the skin lesions and soft tissues
- Dehydration, pneumonia

Severe complications (greatest risk for immunocompromised persons or those on steroids/immunosuppressive medications)

- Cerebellar ataxia
- Encephalitis
- Hemorrhagic conditions

## Report Cases Promptly

Under the California Code of Regulations, medical providers are mandated to report **immediately** by telephone patients hospitalized with chickenpox or a death associated with chickenpox.

Do **not** report cases of herpes zoster or shingles unless further guidance is needed.

**Do not wait for lab confirmation to report.**

Call **888-397-3993** or fax a [Confidential Morbidity Report](#) to **888-397-3778**



## Laboratory Testing

The need for laboratory confirmation of varicella has increased. **Polymerase Chain Reaction (PCR)** for varicella-zoster virus (VZV) is the recommended lab test to confirm diagnosis. Polyester swab method is best suited for PCR.

Direct Fluorescent Antibody (DFA) and Serological tests are **not** as reliable to confirm varicella.

For more details: <https://www.cdc.gov/chickenpox/hcp/lab-tests.html>

### Evidence of Immunity could be:

- Documented age-appropriate varicella vaccination
  - Preschool-age children: 1 dose
  - School-age children, adolescents, adults: 2 doses
- Laboratory evidence of immunity (positive varicella IgG) or laboratory confirmation of disease (positive varicella PCR)
- Diagnosis or documented verification of a history of varicella or herpes zoster by a health care provider

### Treatment

- Calamine lotion and colloidal oatmeal bath may relieve the symptoms and prevent skin infections.
- Do not use aspirin products or medications containing salicylate to relieve fever.
- **Acyclovir** is recommended for immunocompromised people. It works best if given within the first 24 hours after rash onset.
- **VariZIG Post-Exposure Prophylaxis (PEP)** should be given as soon as possible to:
  - Immunocompromised persons without evidence of varicella immunity;
  - Pregnant women without evidence of varicella immunity; and
  - Newborn infants whose mothers had onset of chickenpox within 5 days before delivery or within 48 hours after delivery.
- Antiviral PEP for healthy exposed, susceptible persons is not routinely recommended. Acyclovir as PEP may be considered for some persons.

For more details on appropriate treatments for varicella:

<https://www.cdc.gov/chickenpox/about/prevention-treatment.html>

**Table 1: Laboratory Tests for Chickenpox**

<b>PCR</b>	<ul style="list-style-type: none"> <li>• Collect active vesicles or crusts (scabs)</li> <li>• Unroof vesicle and rigorously collect fluid on a polyester swab</li> </ul>
<b>Serology (IgM)</b>	<ul style="list-style-type: none"> <li>• May take up to 14 days to result</li> <li>• A negative varicella IgM antibody result does not rule out chickenpox as False negative results are common</li> </ul>

### Zoster (Herpes Zoster/Shingles)

- Most often occurs among persons with a history of varicella disease and adults or immunocompromised persons
- Results from reactivation of latent VZV in sensory ganglia
- Grouped vesicular lesions appear unilaterally in the distribution of 1 to 3 sensory dermatomes/Develops on one side of the body, often the face or torso. Severe pain and paresthesia are common.
- Shingrix vaccine recommended for healthy adults 50 years and older

### Congenital Varicella Syndrome

- Primary varicella infection in the first 20 weeks of gestation is occasionally associated with abnormalities in the newborn that include low birth weight, limb hypoplasia, cicatricial skin scarring, localized muscular atrophy, encephalitis, cortical atrophy, chorioretin-itis, and microcephaly.

### Perinatal Varicella:

- Perinatal varicella occurs within first 10 days of life from a mother infected from 5 days before through 2 days after delivery
- 30% fatality rate
- The severity of disease results from fetal exposure to the virus without the benefit of passive maternal antibody.
- Postnatally acquired varicella occurs after 10 days of age and is rarely fatal.

## Resources

- Call the Los Angeles County Department of Public Health Vaccine Preventable Disease Control Program at **(213) 351-7800** M-F 8:30am-5:00pm and ask to speak to the Epidemiology Surveillance Staff Member on duty or speak to the Administrative Officer on Duty at **(213) 974-1234** after business hours or on the weekend.
- [http://publichealth.lacounty.gov/ip/VPD\\_varicella.htm](http://publichealth.lacounty.gov/ip/VPD_varicella.htm)

