

	<p>POLICIES &amp; PROCEDURES</p> <p>Number: <b>40-20</b></p> <p>Title: <b>Chickenpox (Varicella)</b></p>
<p><b>Authorization:</b>  <input checked="" type="checkbox"/> SHR Infection Prevention &amp; Control Committee  <input type="checkbox"/> Facility Board of Directors</p>	<p>Source: <b>Infection Prevention &amp; Control</b>  Date Initiated: May, 2007  Date Reaffirmed:  Date Revised:  Scope: SHR Agencies &amp; Affiliates</p>

### **Introduction**

Varicella-zoster virus – VZV (chickenpox) is an acute, generalized viral disease with sudden onset of slight fever and feeling tired for a day or two. Small red bumps then appear. Often starting on the face, stomach and back, and soon spreading over the body. The bumps become itchy and begin to look like blisters (filled with clear fluid). Over the next 3 to 5 days the fluid in the blisters turns cloudy, the blisters break and a crust or scab forms while the skin heals. During this same time new “crops” of bumps come up, form blisters, then crust over and heal. It usually takes 7 to 10 days from the beginning of chickenpox until the last “crop” of blisters crust over.

Varicella is transmitted from person to person by direct contact, droplet or airborne spread of vesicle fluid or secretions of the respiratory tract of chickenpox cases and indirectly through articles freshly soiled by discharges from vesicles or mucous membranes of infected people. Chickenpox is extremely contagious.

The incubation period is between 10 – 21 days; however this may extend to 28 days if Varicella zoster immune globulin (VariZIG™) is given.

Complications are more frequent in immune compromised and pregnant persons. The complications of chickenpox include secondary bacterial skin and soft tissue infections, otitis media, bacteremia, pneumonitis, osteomyelitis, septic arthritis, endocarditis, necrotizing fasciitis, toxic shock-like syndrome, thrombocytopenia, cerebellar ataxia, and encephalitis.

Individuals at higher risk for complications of varicella disease include:

- Those who are immune compromised due to disease or therapy
- Premature infants (<37 weeks gestation) exposed during their first weeks of life
- Newborns whose mothers develop varicella disease 5 days before, to 2 days after delivery
- Pregnant women
- Those with cystic fibrosis
- Recipients of solid organ transplant or those awaiting solid organ transplant or haematopoietic stem cell transplant
- Those on chronic salicylate therapy

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Maternal infection during the first 20 weeks of pregnancy may result in transmission of VZV to the fetus and cause congenital varicella syndrome. Maternal infection 5 days before through 2 days after delivery can result in severe varicella of the newborn infant.

**Confirmed case of varicella:**

Laboratory confirmation of infection:

- By isolation of varicella virus or positive PCR from an appropriate specimen  
or
- Significant rise in serum varicella immunoglobulin G antibody level by a standard serologic assay  
or
- Clinical illness in a person who is epidemiologically linked to a confirmed case. Clinical illness is characterized by a rash with rapid evolution of macules to papules, vesicles, and crusts; all stages are simultaneously present; lesions are superficial and may appear in crops.

**Varicella immune individual:** Any person with one of the following:

- Self reported history of varicella or herpes zoster
- Physician-diagnosed varicella or herpes zoster
- Documentation of positive VZV IgG
- Previous isolation of varicella virus from an appropriate clinical specimen
- Documented receipt of 2 doses of live varicella vaccine, given at least one month apart for those  $\geq 13$  years; one dose for those 12 months to  $\leq 12$  years of age.

**Varicella susceptible individual:** Any person with one of the following:

- No or uncertain history of chickenpox or herpes zoster
- Negative serology (VZV IgG negative)

**Policy**

1. Health care workers caring for patients with confirmed or a clinical case of varicella should be immune to chickenpox.
2. All health care workers providing direct patient care should know their immune status to varicella. If non-immune, consult Occupational Health regarding vaccination.
3. If a rash develops after varicella vaccination, the rash should be covered if possible and health care workers should not have contact with susceptible high risk persons for the duration of the rash.
4. Individuals who have been fully immunized are considered to be immune, 4 weeks after the second dose. There is no need for post-vaccination serology to determine immunity.
5. A patient is considered a contact if they have had contact with someone known to have varicella during the period of communicability:
  - Continuous household contact (living in the same dwelling)
  - Sharing the same hospital room
  - Face-to-face contact for five or more minutes
  - Direct contact with varicella vesicular fluid.
6. Non-immune patients in contact should be considered potentially infectious 8 days after first exposure to 21 days after last exposure (28 days if VariZIG™ was given) and be on Airborne and Contact Precautions during that time.

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7. Patients with confirmed or a clinical case of varicella shall be on **Airborne and Contact Precautions** (see Contact Precautions and Airborne Precautions policies) during the period of communicability (people are contagious from 2 days before the rash until all skin lesions have crusted).
8. If negative pressure rooms are not available, use a single room with door closed.
9. Airborne precautions should be taken for neonates born to mothers with varicella onset < 5 days before delivery. These patients would receive VariZIG™, so precautions should continue until discharged from hospital or 28 days from birth (whichever is earlier).
10. Report to Public Health.

### **Purpose**

1. To reduce the mortality and morbidity associated with varicella disease.
2. To prevent the spread of varicella disease.

### **Procedure**

1. Post Airborne and Contact Precautions sign (SHR Printing Services #102104) on door of patient's room.
2. Post Precautions Checklist sign (SHR Printing Services #102246) on door. Check off special instructions on sign and write "anyone not immune to chickenpox, do not enter".
3. Personal Protective Equipment
  - Health care workers and visitors are to wear gloves and gown when they enter the room of a patient for whom Contact Precautions are in place for suspected or confirmed varicella if direct contact with patient or environmental surfaces is likely.
  - Immune health care workers and visitors do not require masks.
  - Health care workers and visitors who are susceptible but who absolutely must enter the room of a patient for whom Airborne Precautions are in place for suspected or confirmed varicella wear N95 high particulate filtration masks.
4. Post-exposure management following patient exposure to a confirmed or clinical case of varicella.
  - Confirm the diagnosis.
  - Consult Infection Prevention and Control.
  - Identify patients and health care workers who have been exposed and are susceptible to varicella.
  - Discharge all exposed susceptible patients as soon as possible. If discharge is not possible, place susceptible patients on Airborne and Contact Precautions from days 8 through days 21 post exposure. Extend to 28 days, if VariZIG™ is given.
  - If immune status is unknown, order serology for VZV IgG.
  - If serology negative, post-exposure immunization can be started within 3 to 5 days of exposure for susceptible staff (providing there are no contraindications to receipt of varicella vaccine). See Occupational Health.
  - For susceptible pregnant women or immune suppressed persons who have been exposed to an infectious varicella case, vaccine should not be used. Prophylaxis with varicella zoster immune globulin (VariZIG™) is indicated, given within 96 hours of exposure as this may prevent or modify disease in susceptible close contacts.

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5. Keep lesions clean; hands should be kept clean and nails clipped to prevent staphylococcal or streptococcal superinfection.
6. The patient should be out of the room for essential purposes only. The patient should wear a procedure mask and have skin lesions covered when out of the room.
7. Inform Infection Prevention and Control if more than one patient/health care worker on the same unit meet the criteria for a confirmed case, as an outbreak may be a possibility.
8. Refer to Fact Sheet on Chickenpox in the Infection Prevention and Control Manual.

References:

1. Advisory Committee on Epidemiology, Bureau of Communicable Disease Epidemiology, Laboratory Centre for Disease Control. (2000). Supplement: Case definitions for diseases under national surveillance. Canada Communicable Disease Report, 26S3.
2. American Academy of Pediatrics. (2003) Red Book: Report of the committee on infectious diseases. (26<sup>th</sup> ed.). Elk Grove Village, IL: Author.
3. Heymann, D. (2004). Control of Communicable Diseases Manual (18<sup>th</sup> ed.). Washington, DC: American Public Health Association.
4. Health Canada, *Infection Control Guidelines. Routine Practices and Additional Precautions for Preventing the Transmission of Infection in Health Care.* CCDR 1999; 25S4.
5. Public Health Agency of Canada, (2006) *Canadian Immunization Guide*, (7<sup>th</sup> ed.)