

**March 2015**

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# CHELAN-DOUGLAS PUBLIC HEALTH



## Current Conditions of Interest

*"Always Working for a Safer and Healthier Community"*

**TO REPORT A  
NOTIFIABLE  
CONDITION:**

Phone (509) 886-6400

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### Varicella in Local Schools

Two Wenatchee elementary school students from the same school, but different grades, were physician diagnosed with varicella within a week of each other. The two children were close relatives. Both children had received two varicella vaccinations.

Three potentially exposed teachers at the school were pregnant. These teachers were advised to notify their medical provider and determine if they required varicella zoster immune globulin (VZIG). If a pregnant woman gets varicella in her 1<sup>st</sup> or early 2<sup>nd</sup> trimester, her baby has a risk of being born with abnormalities in limbs, brain, and eyes, and low birth weight.

Other serious complications of chickenpox, especially in infants or immune compromised individuals, include:

- infection or inflammation of the brain
- blood stream infections (sepsis)
- pneumonia
- bone or joint infections
- Death

Having two students diagnosed within a single incubation period the school was asked to enforce their exclusion policy with support from Chelan-Douglas Health District. Students not vaccinated against varicella or not up-to-date (having only 1 dose) with their varicella vaccinations would be excluded for 21 days. There were four students within those categories. Parents of two of the students got their children up-to-date and they were able to remain in school. The parents of the two other students, who happen to be siblings, chose not to get their children vaccinated and keep them home for the 21 day incubation period.

**Varicella vaccine Recommendations:**

- Routine vaccination at 12-15 months of age
- Routine second dose at 4-6 years of age
- Minimum interval between doses of varicella vaccine for children <13 years of age is 3 months
- Varicella vaccine doses administered to persons 13 years of age or older should be separated by 4 to 8 weeks

**MMVR vaccine Recommendations:**

- Approved for children 12 months through 12 years of age
- Do not used for persons 13 year and older
- May be used for both first and second doses of MMR and varicella vaccines
- Minimum interval between doses is 3 months

So far this year in Region 7 varicella has been confirmed in students from Eastmont, Mansfield, Okanogan and Kittitas schools.

The Chelan-Douglas Health District developed a tool for school nurses to use when cases of varicella are identified in students. The tool is on the following two pages.



# VARICELLA

Chickenpox Outbreak Management March 2015

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## What should school staff do when a possible case of varicella (chickenpox) is brought to their attention?

The identification of a single case of varicella should trigger intervention measures because this case could lead to an outbreak. Varicella outbreaks have been documented in highly vaccinated populations and vaccinated persons acted as the index case in several outbreaks. Because one case of chickenpox in a school represents the potential for an outbreak, the Chelan-Douglas Health District should be notified whenever chickenpox occurs in a school environment.

1. Referral to a licensed health care provider is recommended. During an outbreak, lab confirmation of varicella is recommended for one or more cases (regardless of the patients' vaccination status), especially at the beginning of the outbreak. Advise parent/guardian to inform their licensed health care provider's (HCP) office staff of the presence of a rash illness so that appropriate medical isolation during the visit can be arranged.
2. Notify classmates' parent/guardian of the presence of chickenpox in the class (or at the school) as appropriate.
3. Any time a case of chickenpox occurs in a school, inform students and staff with certain high-risk conditions (anemia, immunodeficiencies, and pregnancy) of the increased risks of acquiring the infection. Refer them to their HCP for guidance. Individual student health plans for high-risk students should include planning for exclusion, in consultation with the students' HCP, as a way to avoid contact with specific infections.
4. Inform the parents/guardian that the children with chickenpox should not receive aspirin because of its possible association with Reye Syndrome.
5. Maintain and support confidentiality for the student.

## Control of Spread

1. Screen for school vaccine entry requirement.
2. Utilize standard precautions.
3. Refer to district infection control program protocols and policy for infectious diseases.
4. Exclude students with chickenpox from school until all lesions have crusted.
5. Parents of children without evidence of varicella immunity should be advised to have their child vaccinated with the appropriate dose or, if vaccination is contraindicated or refused, exclude the child from school up to 21 days after the last case is identified.

OSPI Infectious Disease Control Guide for School Staff

<http://www.k12.wa.us/healthservices/pubdocs/InfectiousDiseaseControlGuide.pdf>

## Post-exposure treatment for those who are unimmunized or under-immunized.

People who are unimmunized (no shots, no documentation of immunity) or under-immunized (one shot) should call their health care provider (HCP) and arrange to receive the chickenpox vaccine after exposure. ***Vaccination within 72 hours of exposure is 70-100% protective.*** Post-exposure vaccination is not effective for prevention if given more than 5 days after exposure, but will provide protection against future exposures if they were not infected.

Symptoms: Adults may have 1 to 2 days of fever and malaise prior to rash onset, but in children the rash is often the first sign of disease.

*Excluded people vaccinated within 5 days of their last exposure may return to school immediately, but will need to be on a symptom watch for 21 days following exposure and stay away from the school if symptoms develop.*

**Why does a child need a chickenpox vaccination or proof of immunity during an outbreak if the vaccination is not required for their grade?**

Because CDC says evidence of immunity (up-to-date vaccination or medical evidence of immunity) is required to prevent exclusion during an outbreak. Any child with a vaccination status that is not up-to-date according to CDC, or without medical documentation of immunity, will be recommended for exclusion until they are either vaccinated [if it is timely-see post-exposure treatment, above] or testing by varicella antibody titer shows immunity, or until 21 days after the last case of chickenpox is identified.

**Is it safe for a person to get a chickenpox vaccination if they think they have had chickenpox, but illness was never confirmed by a healthcare provider?**

A varicella antibody titer (blood test) is available to check immunity, but is not required before vaccination. Since 70% to 90% of adults who don't remember having chickenpox actually show immunity when their blood is tested, testing adults who don't have a HCP verified history of chickenpox may be cost saving. If testing is not available, it is still safe for a person that previously had chickenpox to receive the vaccine.

**What precautions should be taken if there is a chickenpox outbreak and there are pregnant staff members or students?**

Someone who is pregnant and unsure whether she is immune to chickenpox should talk to her HCP, who can order lab testing to determine her immunity status. If not immune she will need to discuss with her HCP how she can best protect herself and her baby.

**Post-exposure treatment for people at high risk for complications.**

In December 2012, the Federal Drug Administration approved VariZIG for use as a post-exposure prophylaxis to chickenpox in persons at high risk for severe disease, who lack evidence of immunity to chickenpox and for whom chickenpox vaccine is contraindicated. It is approved for use as soon as possible following varicella zoster virus exposure, ideally within 96 hours for greatest effectiveness, but within 10 days is acceptable.

**When is a varicella outbreak considered over?**

An outbreak is considered to be over when no new cases have occurred for two incubation periods following the last identified case. For chickenpox, two incubations periods is 42 days, so any new case within 42 is considered to be part of the same outbreak. A new case after 42 days may be the first case of a new outbreak.

**Washington State Dept. of Health School Immunization Schedules**

[2014-2015 Requirements](#)

[2015-2016 Requirements](#)

**Varicella Requirements:**

**2014-15 School Year:** Grades K-6: 2 doses or health care provider verification of past illness

**2015-16 School Year:** Grades K-8: 2 doses or health care provider verification of past illness

**2016-17 School Year:** All grades: 2 doses or health care provider verification of past illness



*Adolescent female with varicella lesions in various stages*

Links



# CHELAN-DOUGLAS PUBLIC HEALTH

http://www.cdhd.wa.gov

March 2015

## Rabies Prophylaxis

Essential components of rabies post-exposure prophylaxis (PEP) are wound treatment and administration of both human rabies immune globulin (HRIG) [only for previously unvaccinated persons] and a series of doses of rabies vaccine.

Rabies vaccination should be administered according to the most current Advisory Committee on Immunization Practices (ACIP) recommendations. The July 2009 provisional recommendations to reduce the number of rabies vaccine doses given in the PEP series from 5 to 4 doses for unvaccinated persons who are immunocompetent. The Centers for Disease Control and Prevention (CDC) adopted these recommendations in March 2010 (<http://www.cdc.gov/mmwr/PDF/rr/rr5902.pdf>). Additional ACIP recommendations are at: <http://www.cdc.gov/mmwr/PDF/rr/rr5703.pdf>.

**It's important to remember that rabies prophylaxis is a medical urgency but not a medical emergency.**

**Resources:**

[CDC Rabies Home Page](#)

HRIG is administered once to previously unvaccinated persons to provide rabies virus-neutralizing antibody coverage until the patient responds to vaccination by actively producing virus-neutralizing antibodies.

HRIG is administered once on day 0 at the time PEP is initiated, in conjunction with human rabies vaccines available for use in the United States. If HRIG was not administered when vaccination was begun on day 0, it can be administered up to and including day 7 of the PEP series.

Vaccination status	Intervention	Regimen*
Not previously vaccinated	Wound cleansing	All PEP should begin with immediate thorough cleansing of all wounds with soap and water. If available, a virucidal agent (e.g., povidine-iodine solution) should be used to irrigate the wounds.
	Human rabies immune globulin (HRIG)	Administer 20 IU/kg body weight. If anatomically feasible, the full dose should be infiltrated around and into the wound(s), and any remaining volume should be administered at an anatomical site (intramuscular [IM]) distant from vaccine administration. Also, HRIG should not be administered in the same syringe as vaccine. Because HRIG might partially suppress active production of rabies virus antibody, no more than the recommended dose should be administered.
	Vaccine	Human diploid cell vaccine (HDCV) or purified chick embryo cell vaccine (PCECV) 1.0 mL, IM (deltoid area <sup>†</sup> ), 1 each on days 0, <sup>§</sup> 3, 7 and 14. <sup>¶</sup>
Previously vaccinated**	Wound cleansing	All PEP should begin with immediate thorough cleansing of all wounds with soap and water. If available, a virucidal agent such as povidine-iodine solution should be used to irrigate the wounds.
	HRIG	HRIG should not be administered.
	Vaccine	HDCV or PCECV 1.0 mL, IM (deltoid area <sup>†</sup> ), 1 each on days 0 <sup>§</sup> and 3.

\* These regimens are applicable for persons in all age groups, including children.

<sup>†</sup> The deltoid area is the only acceptable site of vaccination for adults and older children. For younger children, the outer aspect of the thigh may be used. Vaccine should never be administered in the gluteal area.

<sup>§</sup> Day 0 is the day dose 1 of vaccine is administered.

<sup>¶</sup> For persons with immunosuppression, rabies PEP should be administered using all 5 doses of vaccine on days 0, 3, 7, 14, and 28.

\*\* Any person with a history of pre-exposure vaccination with HDCV, PCECV, or rabies vaccine adsorbed (RVA); prior PEP with HDCV, PCECV or RVA; or previous vaccination with any other type of rabies vaccine and a documented history of antibody response to the prior vaccination.



## Rabies Transmission

Rabies can be spread when infected saliva or central nervous system tissue inoculates broken skin or contaminates mucosa. Most often this occurs via a bite from an animal. All mammals are susceptible to rabies. Person-to-person transmission has never been confirmed via a bite, but has occurred via corneal and organ transplants. Limited evidence suggests rabies might be transmitted by exposure to very large amounts of aerosolized rabies virus (e.g., exposure to millions of bats in a cave or laboratory culture). It is not transmitted by contact with blood, urine or feces, or by touching fur. Drying inactivates the virus.

Algorithm

### I Washington State Guidelines for Human Rabies Prevention

- **All suspected rabies exposures (to people) must be immediately reported** to the local health jurisdiction (LHJ) per WAC 246-101. This includes reporting of all persons to whom rabies post-exposure prophylaxis (PEP) is administered.
- **Consultations and animal testing** are available from the LHJ. Healthcare providers are encouraged to consult LHJs prior to initiating PEP.
- **Rabies exposures include** bites, scratches, and fresh wounds or mucous membranes contaminated with a mammal's saliva or neural tissue. Touching animal fur, blood, urine, or feces is not a rabies exposure. Non-mammals, e.g., birds and reptiles, do not get rabies. **Bat exposures<sup>†</sup>** deserve special consideration.

Risk	Animal type	Geographic location of exposure	Notify LHJ	Animal testing recommendation	PEP recommendation
HIGH	<b>Any rabid-acting* mammal</b>	Anywhere	Yes	Test if available.	<ul style="list-style-type: none"> <li>- If animal tests positive, OR if unable to test, OR a bite from any animal highly suspected to be rabid, give PEP immediately.</li> <li>- If bite to head/neck from any animal or severe bite from non-bat animal, consider giving PEP immediately.</li> <li>- If non-severe bite to other area (e.g., extremities) from any animal, PEP can be delayed 24-48 hours while animal is tested.</li> </ul>
	<b>Bat<sup>†</sup></b>				
	<b>Wild carnivore</b> (e.g., raccoon, skunk, fox, coyote, wolf, or hybrid)				
MEDIUM	<b>Dog, cat, or ferret</b> with normal appearance & behavior. (Does <u>not</u> apply to hybrids, e.g. wolf-dogs.)	In or imported in past 6 months from rabies endemic area including Asia, Africa, Middle East, South/Central America, or Mexico	Yes	<b>Confine and observe for 10 days.<sup>§</sup></b> If signs of rabies* develop during observation, call LHJ for immediate testing (see <i>rabid-acting* mammal</i> above).	<ul style="list-style-type: none"> <li>- If tests positive or if unable to observe or test, give PEP.</li> <li>- If observing, consider starting PEP immediately given elevated risk; can discontinue if animal survives 10-day observation.</li> </ul>
MEDIUM-LOW	<b>Wild animal hybrids</b> (e.g., wolf-dogs)	In Washington	Yes	Generally test if available. See <i>special considerations for hybrids</i> .	<ul style="list-style-type: none"> <li>- If tests positive, give PEP.</li> <li>- See <i>special considerations for hybrids (wild carnivores section)</i>.</li> </ul>
	<b>Raccoons</b>	In Washington	Yes	Test if available.	<ul style="list-style-type: none"> <li>- If tests positive, give PEP.</li> <li>- If unable to test: if provoked* and normal appearing/behaving, then PEP not routinely recommended; if unprovoked or behavior suspicious for rabies, recommend PEP.</li> </ul>
	<b>Other wild carnivores</b>	In Washington	Yes	Test if available.	<ul style="list-style-type: none"> <li>- If tests positive or if unable to test, give PEP</li> </ul>
LOW	<b>Dog, cat, or ferret</b> (D/C/F) with normal appearance & behavior. (Does <u>not</u> apply to hybrids, e.g., wolf-dogs.)	In the U.S. (or a country not known to be endemic for canine rabies)	No <sup>^</sup>	<ul style="list-style-type: none"> <li>• <b>Confine and observe for 10 days.<sup>§</sup></b> <ul style="list-style-type: none"> <li>o If signs of rabies develop during observation, call LHJ for immediate testing (see <i>rabid-acting* mammal</i>).</li> </ul> </li> <li>• Animal euthanized due to chronic illness or injuries, or unwanted D/C/F:           <ul style="list-style-type: none"> <li>o If feral/stray then test.</li> <li>o If owned, test if unprovoked or D/C/F had known exposure to bat/rabid animal; otherwise victim can waive testing if provoked.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>- If observing, PEP not necessary if animal healthy for 10 days.</li> <li>- If tests positive, give PEP.</li> <li>- <b>If unable to observe or test</b> then consider exposure location:           <ul style="list-style-type: none"> <li>• <b>Outside WA State:</b> Consult LHJ; consider D/C/F vaccination status and contact with rabies reservoir species in that locale.</li> <li>• <b>In WA State:</b> If D/C/F had exposure to an untested bat or rabid animal in last 6 months give PEP. Otherwise:               <ul style="list-style-type: none"> <li>o If provoked<sup>§</sup>, PEP <u>not</u> recommended.</li> <li>o If <u>unprovoked cat exposure</u>, recommend PEP</li> <li>o If <u>unprovoked dog/ferret exposure</u>, consult LHJ, generally recommend PEP.</li> </ul> </li> </ul> </li> </ul>
VERY LOW	<b>Rodent, lagomorph/ rabbit, or opossum</b> <b>Livestock</b> (e.g., cattle, llama, horse, pig)	Anywhere	No <sup>^</sup>	No need to test unless <i>rabid-acting*</i> . Consult with LHJ if thought to be rabid; livestock should be evaluated by a veterinarian.	PEP not recommended unless animal tests positive or unable to test a <i>rabid-acting*</i> animal; consult LHJ in such cases.

NOTE: See definitions and explanations on next page.

Washington State Department of Health

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Last revised: August 6, 2014

### Resources

- [Washington State Department of Health Rabies Page](#)
- [Washington State Department of Health Suspected Rabies Exposure Guidelines](#)