



## Buncombe County Health and Human Services

Aging and Veteran's Services ~ Social Work Services  
Public Assistance & Work Support Strategies ~ Public Health  
Amanda Stone, MSW  
Health and Human Services Director

**To:** Buncombe County Medical Providers  
**From:** Dr. Jennifer Mullendore, Medical Director  
**Date:** May 5, 2016  
**RE:** Health alert from the Buncombe County Department of Health

Buncombe County Health and Human Services recently has seen an increase in varicella cases in some local schools. While varicella is not a reportable disease, outbreaks are common and we work with school nurses and school administrators to prevent further spread, especially to vulnerable populations.

- **If a student has symptoms of varicella, parents are instructed to keep the child at home and call their healthcare provider for an appointment to confirm the diagnosis.**
  - To reduce the spread of communicable illnesses in your office, it is recommended that these patients be seen at the end of the clinic day, be given a mask upon arrival and isolated in an exam room quickly or be seen outside in their car. The fewest number of staff possible should have contact with the patient; these staff should have known immunity to varicella and wear appropriate PPE.
- **If the child does have chickenpox, they must stay home until all of their sores have formed scabs and the child feels better.**

Per CDC guidelines, if there is an outbreak of 5 or more students with chickenpox at a school, students who have not been sick with chickenpox before AND have not received at least one dose of varicella vaccine should not be allowed to return to the school until 21 days after the rash starts in the most recent case of chickenpox linked to that outbreak.

**As proof of prior illness, a child must have a signed note from a healthcare provider verifying that they did have typical chickenpox illness, so you may be hearing this request from the parents of some of your patients.**

- **To verify a history of varicella, you should inquire about:**
  - **an epidemiologic link to another typical varicella case or to a laboratory confirmed case, or evidence of laboratory confirmation, if testing was performed at the time of acute disease.**
- Persons who have neither an epidemiologic link nor laboratory confirmation of varicella should not be considered as having a valid history of disease.
  - For these persons, a second dose of vaccine is recommended if they previously received only one dose.

**It also would be very valuable for information about a child's history of chickenpox illness to be entered into the comments section of the child's record on the NC Immunization Registry if that illness is their method of immunity.**

For those without healthcare provider verification of varicella illness, per North Carolina state law, children who were born after April 1, 2001 are required to have one dose of varicella (chickenpox) vaccine. In addition, all children entering Kindergarten or first grade after July 1, 2015 are required to have two doses of the varicella vaccine.

- Parents at these schools are being encouraged to vaccinate their children right away.
  - If given within 3 – 5 days after exposure, the vaccine can help prevent chickenpox or reduce its severity.
  - **Children can return to school immediately after getting the vaccine and will not face exclusion unless they become ill.**

- Regardless of the state law, **we are encouraging all children to get 2 doses of the varicella vaccine for the best protection against the illness.**

As always, please contact me or the Buncombe County Disease Control staff (828-250-5109; available 24/7) if you have any questions or concerns.

### Varicella Vaccine Effectiveness

#### One dose

- 85% effective at preventing any form of varicella
- almost 100% effective against severe varicella

#### Two doses

- In a pre-licensure clinical trial, 2 doses of vaccine were—
  - 98% effective at preventing any form of varicella
  - 100% effective against severe varicella
- **In post-licensure studies, 2 doses of vaccine were 88% to 98% effective at preventing all varicella**

### Varicella in an Unvaccinated Person

- Prodrome of fever, malaise, headache, abdominal pain 1-2 days before rash appears
- Rash involves 3 or more successive “crops” of lesions over several days
  - Each crop usually progresses within <24 hrs from macules to papules, vesicles, pustules and crusts so that on any part of the body there are lesions in different stages of development.
  - Rash usually starts on face and trunk, then spreads to extremities
  - 250-500 pruritic lesions
  - Lesions are typically crusted 4-7 days after rash onset

### Breakthrough Varicella in a Vaccinated Person

- Defined as infection with wild-type varicella disease occurring >42 days after vaccination
- Usually milder clinical presentation than varicella in an unvaccinated person
  - Usually low or no fever
  - <50 lesions
    - Atypical appearance
      - Few or no vesicles; predominately maculopapular
  - Shorter duration of illness
- Less contagious
- **25-30% of breakthrough varicella cases are not mild and have clinical features more similar to varicella in unvaccinated persons**

**\*\*Photos of varicella in vaccinated and unvaccinated persons** can be viewed at

<http://www.cdc.gov/chickenpox/about/photos.html>

### Varicella Facts

- Average incubation period: 14-16 days after exposure (range: 10-21 days)
- **Period of contagiousness: 1-2 days before rash onset until all lesions crusted (or disappear if maculopapular rash) (typically 4-7 days)**

- Varicella in unvaccinated persons is **highly contagious** (61-100% secondary household attack rate)
  - Varicella in 1 dose-vaccinated persons half as contagious as unvaccinated cases

### **Varicella Infection Control**

- Instruct parents to **keep children home from school or public places until vesicles become dry and crusted** (unless medical emergency and then they should call ahead).
- Instruct infected adults to **stay home from work/public places and avoid contact with unvaccinated persons until all lesions crusted (or disappear if maculopapular rash).**
- **In unvaccinated contacts, varicella vaccine is effective in preventing illness or reducing severity if used within 3 days, and possibly up to 5 days, of exposure.**
- **If an unvaccinated/non-immune pregnant woman (or other non-immune person at high risk for severe disease for whom varicella vaccine is contraindicated) has been exposed to varicella, VariZIG, a varicella zoster immune globulin preparation, can be administered as post-exposure prophylaxis up to 10 days after exposure.** For more info see <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6228a4.htm>
  - BCHHS has a Varicella Plan on file at Mission Hospital to address what providers should do in the case of a non-immune pregnant woman who is exposed to varicella.
- **Encourage susceptible individuals to be vaccinated against varicella before they are exposed!**

Because the varicella vaccine is a live virus vaccine it must be stored frozen. As with any vaccine, there is significant potential for decreased effectiveness of the vaccine if it is not stored or handled correctly. **Therefore, even though a patient has received sufficient doses of a vaccine, please still consider that vaccine-preventable disease in your differential if it clinically fits.**

- **If you have any questions re: vaccine storage or handling, please contact the Immunization Clinic staff at BCHHS at 250-5096.**  
For more information about varicella and varicella vaccine, see:
- <http://www.cdc.gov/chickenpox/index.html>
- Prevention of Varicella, Recommendations of the Advisory Committee on Immunization Practices (ACIP). MMWR 22 June 2007. 56(RR04);1-40. <http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5604a1.htm>