



## Buncombe County Health and Human Services

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

October 22, 2013

### Varicella Update for Medical Providers

As happens every school year, we have started to hear of children having illnesses concerning for varicella. I just wanted to take the time to remind everyone that **although the varicella vaccine is almost 100% effective at preventing severe cases of varicella, it is not 100% effective at preventing milder cases.** Please keep **Breakthrough Varicella** on your list of possible diagnoses in a vaccinated child with a rash illness.

Diagnosing breakthrough varicella is challenging because of its atypical clinical presentation. It easily can be mistaken for bug bites or other rash illnesses. Below is further information on varicella vaccine effectiveness as well as some clinical information/links to assist you in diagnosing varicella in vaccinated and unvaccinated persons. I have also included infection control information to prevent the spread of varicella to susceptible contacts.

As always, please contact me or the Buncombe County Department of Health and Human Services' (BCHHS) Disease Control staff (250-5109) if you have any questions or concerns. While varicella is not a reportable disease, outbreaks are common and we work with school nurses and administrators to prevent spread to vulnerable populations.

Thanks for all you do for our community,

Jenni

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HHS Administration	Aging & Veteran's Services	Social Work Services	Public Assistance	Public Health
p. 828.250.5700	p. 828.250.5726	p. 828.250.5500	p. 828.250.5500	p. 828.250.5000
f. 828.250.6235	PO Box 7408	f. 828.250.6235	f. 828.250.6235	f. 828.250.6235
PO Box 7408	Asheville, NC	PO Box 7408	PO Box 7408	PO Box 7407
Asheville, NC	28802	Asheville, NC	Asheville, NC	Asheville, NC
28802		28802	28802	28802

### 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, medical offices, emergency departments or public places until vesicles become dry and crusted** (unless medical emergency and then 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>