

**WEBCAST TRANSCRIPT****Transcript of "Smallpox Vaccinee Evaluation and Follow-up"  
Presented by Dr. Joanne Cono, 6 December 2002, on the satellite broadcast of "CDC  
Bioterrorism Update: Smallpox Preparedness"**

(Associated graphics can be found at [www.bt.cdc.gov/agent/smallpox/training/webcast/dec2002/files/vaccine-ed.ppt](http://www.bt.cdc.gov/agent/smallpox/training/webcast/dec2002/files/vaccine-ed.ppt) and [www.bt.cdc.gov/agent/smallpox/training/webcast/dec2002/files/vaccine-ed.pdf](http://www.bt.cdc.gov/agent/smallpox/training/webcast/dec2002/files/vaccine-ed.pdf).)

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(Slides 1 and 2 are title and objectives, respectively)

**CONO:**

During the next few minutes, I will review the information needed to provide follow-up care to vaccinees. Vaccinees should have their vaccination site evaluated 7 to 8 days after vaccination to document that they have responded to the vaccine. A positive response to the vaccine is often called a "take".

**Slide 3**

Here we see photos of the normal progression of the vaccination site. By day 4, vesicles have appeared. The lesion evolves into a pustule by day 7. The presence of a pustule at that time verifies that the vaccinee has responded to the vaccine and has a "positive take." By day 14, the pustule has dried and a scab has formed. By day 21, the scab has thickened and will soon separate, usually by 28 days post-vaccination.

**CONO:**

If the vaccinee has not responded to the first vaccination attempt, he should be vaccinated again, as soon as possible. This second vaccination may be placed on the same arm as the first attempt, although if possible, at least a centimeter from the first vaccination site.

**Slide 4**

The progression of the vaccination site may be slightly different for those persons receiving their first smallpox vaccine, as compared to those who have been vaccinated sometime in the past. Persons receiving their first smallpox vaccination are expected to develop a vesicular or pustular lesion within a week after vaccination. The site should have an area of definite palpable induration surrounding a central crust or ulcer.

**Slide 5**

For those patients who are being revaccinated - that is, those who have had a successful primary vaccination sometime in the past- there may be a LESS pronounced lesion with MORE RAPID progression. A revaccinated patient is considered to have responded to the vaccine if they produce a pustular lesion or have an area of induration surrounding a central crust or ulcer. Both reactions are normal for the revaccinated patient and should be recorded as a "take." Vaccinees who received their last smallpox vaccination more than 10 years ago will probably have a vaccination response that looks much like that of a first-time vaccinee.

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### **CONO:**

As an aside, when vaccinating a volunteer who has a previous vaccination scar, don't vaccinate on top of the old scar. In some situations, it may be important to be able to estimate the number of times a person has been vaccinated by counting their scars.

### **Slide 6**

Individuals receiving their first dose of vaccine normally experience tenderness, redness, and swelling at the vaccination site. In a later talk, you will see photos of the range of presentations of normal vaccination sites. In addition to the physical findings at the site, a major reaction may be associated with enlarged, tender lymph nodes in the axilla of the vaccinated arm. This happens during the second week following vaccination, in about 15-20 percent of first-time vaccinees, and is less common among revaccinees. Fever and malaise are common manifestations in all who receive the smallpox vaccine.

### **Slide 7**

Equivocal reactions are all reactions that appear different from a major reaction. Such a reaction in a revaccinee may indicate partial immunity from previous doses. For all vaccinees, those vaccinated for the first time and those revaccinated, it may mean that the vaccine was compromised or that the vaccination technique wasn't correct. All vaccinees having an equivocal reaction should receive another dose, preferably from another vial, unless they have written documentation of a successful smallpox vaccination within the prior year.

### **Slide 8**

Vaccinia virus may be cultured from the site of a primary vaccination beginning at the time of development of a papule - 2 to 5 days after vaccination- until the scab separates from the skin lesion. This can occur anywhere from 14 to 28 days after vaccination. During this time, great care must be taken not to spread the virus to other skin surfaces. Vaccinees should be careful to wash their hands in soap and water after touching the vaccination sites or changing their dressings. The site should be kept dry, although normal bathing is permitted when a waterproof bandage or cover is used.

### **CONO:**

There are a few other points to remember. No salves or ointments should be used on the vaccination site, although vaccinees may use oral anti-pruritic medications, like anti-histamines, if needed. Contaminated bandages should be placed in sealed plastic bags before disposal in the trash. This will lessen the chances that another person will come into contact with them. And finally, clothing or other cloth materials that have had contact with the site can be washed by routine laundering in hot water with laundry detergent and/or normal household bleach.

### **Slide 9**

Following smallpox vaccination, healthcare workers involved in direct patient care should keep their vaccination sites covered with gauze or a similar absorbent material. This dressing will collect the exudates that develop at the site. The first dressing should, in turn, be covered with a semi-permeable dressing to provide a barrier to vaccinia virus. Vaccinees should continue this 2-step barrier method until the scab has separated from the skin.

### **Slide 10**

Vaccinia is transmitted by direct person-to-person contact. The most effective way to prevent inadvertent inoculation and contact transmission of vaccinia is through thorough hand washing after changing the bandage or after any other contact with the vaccination site. HCWs should also consider wearing long sleeved clothing to work, to further lessen the risk of vaccinia transmission.

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### **CONO:**

Transmission of vaccinia is also a concern in other settings when close personal contact with children or other persons is likely—for example, parenting of infants and young children. In these situations, the vaccination site should be covered with gauze or a similar absorbent material, long sleeved clothing should be worn, and careful attention to hand washing practiced.

### **Slide 11**

A semi-permeable dressing should not be used alone because this may cause maceration of the vaccination site and/or increased and prolonged irritation at the site. The more pruritic the healing site becomes, the more likely one is to scratch it, which may contaminate the hands. Furthermore, in order to promote good vaccination site care practices, hospitals should include a site-care component in their smallpox vaccination programs. As part of this activity, designated, vaccinated staff would assess dressings of all vaccinated health-care workers daily, whether they are involved in direct patient care or in other duties. They would also change dressings, if necessary. This designated staff would assess the vaccination site for local reactions and for vaccine take. They should also use the opportunity to reinforce messages to vaccinees about the need for meticulous hand-hygiene.

### **Slide 12**

Health care workers do not need to be placed on leave because they have recently received a smallpox vaccination. The very close physical contact required for transmission of vaccinia to contacts is unlikely to occur in the healthcare setting. Historically, contact transmission occurred in the intimacy of the household setting. However, administrative leave should be considered for newly vaccinated healthcare workers who are physically unable to work due to: systemic signs and symptoms of illness, extensive skin lesions which cannot be adequately covered, or if they do not adhere to the recommended infection control precautions.

### **CONO:**

In summary, instruction on appropriate care of vaccination sites should be part of all smallpox vaccination programs. The 2-step barrier method of dressing the vaccination site should be used, and vaccinated healthcare workers should be instructed that thorough hand washing is critical to preventing transmission of vaccinia virus.

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For more information, visit [www.cdc.gov/smallpox](http://www.cdc.gov/smallpox), or call the CDC public response hotline at (888) 246-2675 (English), (888) 246-2857 (Español), or (866) 874-2646 (TTY)

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