

## Clinical Evaluation Tool for Smallpox Vaccine Adverse Reactions Dermatologic Reactions/ Localized to Vaccination Site (3-12-2003 Version)

www.bt.cdc.gov/agent/smallpox/vaccination/clineval



Vaccine Recipient?

VES

Go to Dermatologic Reactions/ Nontoxic Appearance, Distant from Vaccination Site (or in a Contact) Clinical Evaluation Tool.

**₄** YES

Normal Vaccination Reaction

### Typical reaction timeline

Day Description
0 Vaccination

3-4 Papule

5-6 Vesicle with surrounding erythema - vesicle with depressed center 8-9 Well-formed pustule

12+ Pustule crusts over and

becomes a scab

17-21 Scab detaches revealing scar

Timeline may be accelerated in persons with history of prior smallpox vaccination.

Major reaction. Area of definite induration or congestion surrounding a central lesion that may be a scab or ulcer 6-8 days after vaccination.

Equivocal reaction. Any reaction or response other than a "major reaction."

### **Consultation and Reporting Information**

Civilian health care providers who need clinical consultation with or without release of vaccinia immune globulin (VIG) (first line agent) or cidofovir (second line agent) for potential smallpox vaccine adverse reactions should contact their state/ local health department or the CDC Clinician Information Line at (877) 554-4625. Military health care providers (or civilian providers treating a DoD healthcare beneficiary) requesting clinical consultation should call (866) 210-6469, and if requesting VIG release should call (888) USA-RIID or (301) 619-2257.

Health care providers should report smallpox vaccine adverse events to their state/ local health department and to the Vaccine Adverse Event Reporting System (VAERS) at http://www.vaers.org/ or (800) 822-7967.

Please call (888) 246-2675 (Español (888) 246-2857, TTY (866) 874-2646) or visit http://www.bt.cdc.gov/agent/smallpox/index.asp for general public information about smallpox vaccination. Persons experiencing urgent or life-threatening medical events should seek immediate medical assistance.

### Common signs/symptoms

after vaccination

- Pruritus
- Soreness at vaccination site
- Intense erythema ringing the vaccination site
- Small papules or vesicles around vaccination lesion (satellite lesions)
- Headache
- Local lymphadenopathy
- Malaise
- Myalgia
- Fever

Provide supportive care. Use antihistamines and NSAIDs PRN; avoid topical/ systemic steroids.

### Tape sensitivity Try different tape.

Change bandage frequently, rotate bandage, or take a judicious bandage "holiday" remembering to use other means (e.g. long sleeves) to prevent contact transmission. Use antihistamines PRN; avoid topical/

systemic steroids

Erythema present along lines of adhesive tape and no or mild systemic symptoms?

NO

**Erythematous Vaccination** 

Reaction of Concern

Erythema with induration, warmth, and pain. May also have regional lymphadenopathy and fever.

# Range of normal reactions, including Robust take (>3 inches or ~7.5 cm of redness with swelling, warmth and pain at vaccination site):

- Symptoms expected to peak at 8-10 days post vaccination.
- Symptoms typically improve within 24-72 hours of peak inflammation.

Provide supportive care.
Use antihistamines and
NSAIDs PRN; avoid topical/
systemic steroids. Observe
& rest affected limb.
Observe vigilantly until
improvement noted.

### Consider **Bacterial infection** if:

- Honey-crusted lesions (impetigo) or fluctuance is present at vaccination site.
- Symptom onset is within one week of vaccination or >15 days post vaccination.
- Symptoms are not improving within 72 hours after onset.
- Other concerning clinical features are present.

Streptococcal or staphylococcal infection is the most likely etiology, however other bacterial sources are possible. Obtain cultures of skin/blood, other lab tests (including gram stain) and administer empiric antibiotics as indicated. Use infection control precautions; lesions may contain vaccinia virus.

### **Severe Vaccination Reaction**

Rapid progressive painless extension of central vaccination lesion <u>or</u> progression without apparent healing after 15 days. Lesion often necrotic. Initially little or no inflammation. May present with few or no systemic symptoms.

Early Progressive vaccinia (Vaccinia necrosum, Vaccinia gangrenosum)
Go to Clinical Evaluation Tool for Dermatologic Reactions/Toxic Appearance, Distant from Vaccination Site (or in Contact). See Consultation and Reporting Information.

### <u>Differential diagnosis for localized</u> <u>smallpox vaccine adverse reactions</u>

Consider conditions not related to smallpox vaccine such as:

- Acute contact dermatitis
- Furuncle/ carbuncle
- Pyoderma/ ecthyma
- Herpes simplex virus (HSV)
- Anthrax
- Atypical mycobacteria
- Molluscum contagiosum and other pox viruses
- Pyoderma gangrenosum
- Brown recluse spider bite

#### Laboratory testing

Consider use of licensed diagnostic tests to rule out etiologies not related to vaccina virus contained in smallpox vaccine.

Disclaimer The CDC and its partners in the Clinical Immunization Safety Assessment (CISA) network have developed Clinical Evaluation Tools to help health care providers manage patients with potential adverse reactions from smallpox vaccination in the absence of circulating smallpox virus (pre-event setting). These Tools are based on studies conducted before routine US childhood smallpox vaccination was discontinued in 1972 and on expert opinion; they are not entirely evidence-based. The Tools may not apply to all patients with smallpox vaccine adverse reactions and are not intended to substitute for evaluation by a trained clinician. This Tool was last updated on 3-12-03. Please direct feedback on these Tools to spoxtool@cdc.gov.