



County of Erie

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DEPARTMENT OF HEALTH

HEALTH ALERT ADVISORY #268

MARCH 19, 2010

Vaccinia Transmission Associated with Professional Wrestlers, Niagara and Erie County

Please distribute to Emergency Departments, Infection Control Departments, Employee Health Services, Infectious Disease Departments, Pediatrics, Director of Nursing, Medical Director, Pharmacy, Laboratory Director and all patient care areas.

Summary

- The United States' Department of Defense (DoD) has an ongoing vaccinia vaccination program to protect military personnel from smallpox exposures.
- Confirmed cases of vaccinia have been diagnosed in Niagara County among civilian contacts of a member of the military who received the vaccinia vaccine.
- Civilian exposures occurred during a professional wrestling match in which the member of the military competed.
- Clinicians who see patients with skin lesions consistent with vaccinia should immediately contact their local health department.

Background

The New York State Department of Health (NYSDOH), the Niagara County Department of Health (NCDOH) and the Erie County Department of Health (ECDOH) are currently investigating an outbreak of inadvertent inoculation of vaccinia among civilian contacts of a member of the military who recently received vaccinia vaccine as part of the ongoing United States Department of Defense (DoD) smallpox vaccination program. After vaccination, the vaccinee participated in a local professional wrestling competition resulting in civilian wrestlers' exposure to and infection with vaccinia. Transmission from the infected civilian wrestlers to close personal contacts has also occurred.

The DoD continues to conduct vaccinia vaccination against smallpox among military personnel. While vaccination is generally safe and effective, it can, in rare instances, result in serious untoward effects and adverse reactions. The purpose of this advisory is to remind providers of the ongoing DoD vaccination effort with the potential for inadvertent inoculation of civilian contacts of military vaccinees.

Facts about vaccinia

Smallpox vaccine is made from live vaccinia virus. It does not contain variola virus, the causative agent of smallpox. Vaccinia virus is related to other pox viruses, such as cowpox and smallpox and may be associated with rash, fever, headaches, and myalgias. In certain individuals, complications from the vaccinia virus can be more severe. Vaccinia virus is used to create an attenuated vaccine.

When given to humans as a vaccine, it helps the body to develop immunity to smallpox. As the smallpox vaccine does not contain the smallpox virus it cannot cause smallpox. Because viral replication and shedding occurs at the vaccination site (beginning 2-5 days postvaccination), unintended transmission is possible from the time immediately after vaccination until the scab separates from the skin (approximately 2-3 weeks).

Inadvertent inoculation

Inadvertent inoculation is the most common complication of smallpox vaccination and occurs when vaccinia virus is transferred from a vaccination site to a second location on the vaccinee or to a close contact. This complication occurs because the vaccine contains a live virus which can be spread to others if a vaccinee touches the vaccination site before it has healed, or touches bandages, clothing, or other material that has been contaminated with the live virus, and then touches another part of their body or another individual. The most common sites of inadvertent inoculation include the face, nose, mouth, lips, genitalia, and anus.

Infection control

The vaccination/inoculation site should be considered infectious until the scab has completely detached. Particular attention must be paid to contact precautions and appropriate hand hygiene until that has occurred

A primary prevention strategy to avoid inadvertent inoculation is to instruct vaccinees and their close contacts to avoid touching or scratching the vaccination site from the time of vaccination until the scab detaches. Additionally, vigilant hand washing with soap and warm water, or hand rubs containing $\geq 60\%$ alcohol, after touching an unhealed vaccination site or changing a vaccination dressing is critical. Lesions from an inadvertent inoculation contain live vaccinia virus and the same contact precautions necessary for a vaccination site are necessary for these secondary lesions. Persons at highest risk for inadvertent inoculation are younger persons (e.g., children aged 1-4 years) and those with disruption of the epidermis (e.g., burns, eczema, severe acne, or psoriasis).

Diagnosis, treatment, and reporting

Differentiation of vaccinia from other skin lesions can be challenging. The lesions associated with chickenpox and measles can be confused with vaccinia. Vaccinia lesions progress through stages as macules, papules, vesicles, and crusted scabs. In severe cases, vaccinia may present as eczema vaccinatum or generalized lesions most often found on the trunk and abdomen though the face, limbs, palms and soles may also be involved. Images and additional information on vaccinia can be found at: <http://www.emergency.cdc.gov/agent/smallpox/clinicians.asp>.

All suspect cases of vaccinia must be immediately reported to the local health department (LHD). The Erie County Department of Health's epidemiologist on call can be reached at 716-858-7697 during normal business hours or 716-961-7898 after hours. When inadvertent inoculation or other adverse events related to vaccinia virus infection are suspected, immediate consultation with the LHD and NYSDOH should be obtained **before any specimens are collected.** In addition, any clinically significant other medical events that occur temporally related to a vaccinia vaccination should also be reported. ECDOH and NYSDOH will submit a Vaccine Adverse Event Reporting System report to the Centers for Disease Control and Prevention (CDC) or will request that the provider attending the vaccinee do so.

Digital photos of clinically significant skin lesions should be taken and submitted via the *Digital Photo Submission* application on the NYSDOH Commerce System which can be accessed at: <https://commerce.health.state.ny.us/hpn/hanweb/hanapp.shtml#photo>. This application provides

healthcare providers and LHDs with a secure mechanism to electronically upload digital photographs to NYSDOH communicable disease experts for the evaluation of a patient with clinical manifestations of any disease of public health importance.

Uncomplicated inadvertent inoculation lesions are generally self-limited, resolving in approximately 3 weeks, and require no therapy. If an extensive body surface area is involved, if ocular vaccinia infection is suspected, or if the patient appears at risk of severe manifestations (immunocompromised, previous history of eczema, etc.), treatment with Vaccinia Immune Globulin (VIG) may be indicated. It can speed recovery and prevent further progression of the virus. Physicians at the NYSDOH and CDC will assist providers with the evaluation and management of serious smallpox vaccine adverse events, as well as deciding on the use of VIG or other treatment therapies, such as cidofovir. Treatment with these is investigational and as their use has been associated with significant side effects, hospitalization of the patient would be required.

Additional information

Additional information about smallpox vaccination can be found at the CDC website at: <http://www.emergency.cdc.gov/agent/smallpox/clinicians.asp>.

For any additional questions, please call the Erie County Department of Health at 716-858-7697 or the NYSDOH Bureau of Immunization at 518-473-4437.

The ECDOH Health Alert & Advisory System is an e-mail notification system designed to alert community partners about important health related information. **You can sign up to receive alerts & advisories at www.erie.gov/health/services/health_professionals.asp.**

Health Category Definitions:

Health Alert FLASH: conveys the highest level of importance due to a large-scale, catastrophic public health emergency; warrants immediate action or attention

Health Alert Priority: conveys the highest level of importance; warrants immediate action or attention to a health problem or situation

Health Advisory: provides important information for a specific incident or situation; may not require immediate action

Health Update: provides updated information regarding an incident or situation; no immediate action necessary

The Erie County Department of Health does not provide medical advice. The information provided herein and on the Erie County Department of Health website is not intended as a substitute for professional medical advice, diagnosis, or treatment. Always seek the advice of your personal physician or other qualified health provider with any questions you may have regarding a medical condition or issue. Never disregard professional medical advice or delay in seeking it because of the content found on the Erie County Department of Health website or this correspondence.