

Print-And-Go Sheet: Vaccinia Virus (Poxviruses) Post-Exposure Guidance



This information sheet identifies immediate first aid actions that should be taken following an exposure to Vaccinia virus or other orthopoxviruses (e.g., cowpox).

Seek medical assistance immediately after a Vaccinia virus or poxvirus exposure, and take this document to the medical staff providing treatment. Be sure also to display your Weill Cornell Medicine employee ID card when visiting the medical provider.

Note: This guidance document provides information that medical personnel can reference but does not give individualized medical care or treatment protocols.

How to Seek Medical Assistance

- **For exposures Monday to Friday, 8:00 am – 4:00 pm:**
 - **WCM Upper East Side Employees:** Go to the Payson House basement Workforce Health and Safety (WHS) clinic at **1315 York Avenue** or call **212-746-4370**.
 - **Lower Manhattan Employees:** Go to the NewYork Presbyterian (NYP) Lower Manhattan G level WHS at **170 William Street, Rooms G73A and G73B** or call **212-312-5249**.
 - **Students:** Go to Student Health Services (SHS) at **230 E. 69th Street, Suite 2BB** (between 2nd and 3rd Avenue) or call **646-962-6942**.
- **For exposures after business hours:**
 - **WCM Upper East Side Employees and Students:** Go to the NYP Emergency Room at **525 East 68th Street** or call **212-472-2222**.
 - **Lower Manhattan Employees:** Go to the NYP Lower Manhattan Hospital Emergency Room at **170 William Street** or call **212-312-5070**.

Give this sheet to the physician so they understand that you may have been exposed to a poxvirus, and that this is a medical emergency.

You can contact the NYP ER at 212-472-2222 or by dialing 2-2222 from any campus phone.

Hazard Summary

Vaccinia virus is the prototypical orthopoxvirus, and is commonly used in both general and biomedical research. Laboratory-associated infections with replication-competent species, including wild-type and modified strains of vaccinia virus, have occurred even in previously vaccinated laboratorians. Vaccinia virus and cowpox virus typically cause a single lesion at the site of infection; however, multiple lesions and a generalized rash may also take place. The virus may enter the body through the mucous membranes (e.g., eye splashes, inhalation of droplets or fine-particle aerosols), broken skin (e.g., needlesticks, scalpel cut), ingestion, or by parenteral inoculation. Sources of exposure include fomites, infected human or animal tissue, excretions or respiratory secretions, or infectious cultures.

Infection with the vaccinia virus can cause mild to moderate symptoms, including rash, fever, headache, body aches, and localized skin lesions (such as pustules) at the site of inoculation. More severe, disseminated reactions, including post-vaccinial encephalitis and progressive (spreading) vaccinia, can occur in immunosuppressed individuals or those with multiple skin lesions or severe eczema.

Routine vaccination with ACAM2000 is recommended for laboratory personnel who directly handle cultures or animals infected with replication-competent vaccinia virus, recombinant vaccinia viruses derived from replication-competent vaccinia strains, or other orthopoxviruses that infect humans (e.g., monkeypox, cowpox, and variola).

The Weill Cornell Medicine BBP Exposure Control Plan (https://ehs.weill.cornell.edu/sites/default/files/3.1bbp_0.pdf) contains additional exposure information.



**Weill Cornell
Medicine**

Environmental Health and Safety

TEL 646-962-7233 WEB weill.cornell.edu/ehs EMAIL ehs@med.cornell.edu

Weill Cornell Medicine | 402 East 67th Street, Room LA-0020 | New York, NY 10065



Post-Exposure Medical Evaluation & Treatment

1. VERIFY THAT FIRST AID WAS PERFORMED

- Ensure skin was thoroughly washed with soap and water for at least 15 minutes, and flush mucus membranes (eyes, nose, mouth) with water for 15 minutes.
- Do not squeeze the area of injury or use chemicals like bleach, as they are not known to be beneficial and may break down the skin's barrier function.

2. DOCUMENT AND UNDERSTAND THE EXPOSURE

- Confirm if the exposure was mucocutaneous or percutaneous.
- Determine the nature of the material (e.g., blood, human cell line, unfixed tissue, otherwise potentially infectious material) and how large the exposure was (e.g., blood visible on injury device, deep stick with hollow bore needles vs. scratch with dental probe).
- Determine if the individual has obtained a smallpox or vaccinia vaccination.
- Identify the type of sharp involved (e.g., manufacturer, model, whether it was an engineered sharp).
- Identify the task being performed when the exposure occurred.
- If needed, contact the principal investigator (PI) with the exposed individuals' permission to understand the potential hazards.

3. MEDICATION

- Vaccinia immune globulin intravenous (VIGIV) is recommended as the first line of therapy for continued viral replication, and should be used to treat certain complications such as eczema vaccinatum and progressive vaccinia.
- The antivirals Tecovirimat (FDA approved against smallpox), Cidofovir, and Brincidofovir may be given if symptoms arise.

4. TESTING AND FOLLOW-UP

- Monitor for postvaccinial central nervous system disease, and provide supportive care symptomatically as needed.
- Instruct exposed individual to self-monitor for symptoms, including lesions or swelling at the exposure site, rash, or fever.
- In case a rash or visible lesion, conduct variola testing.
- The initial doses of PEP medication are dispensed by the medical providers. A prescription will need to be filled at a local pharmacy to complete the course of medication.
- Follow up treatment for exposure symptoms may be warranted.

Next Steps for Exposed Individual

- **If evaluated at the ER, follow up with your respective campus provider** (WHS or Student Health) the following business day and complete an accident report there.
- **Notify your supervisor of the incident.**
- **Notify Environmental Health and Safety** so the appropriate reports can be submitted to the Centers for Disease Control. This is required by law for all accidents that result in exposure to Poxviruses and potential Smallpox infection. EHS will handle subsequent reporting.

Contact Information

- EHS: 646-962-7233, ehs@med.cornell.edu
- Security: 212-746-0911
- Workforce Health and Safety: 212-746-4370 (NYP Weill Cornell), 212-312-5249 (NYP Lower Manhattan)
- Student Health Services: 646-962-6942

References

- Poxviruses, Section VIII-E, Biosafety in Microbiological and Biomedical Laboratories, 6th Edition
- "Smallpox; Treatment." CDC. <https://www.cdc.gov/smallpox/clinicians/treatment.html>
- "Novel Treatment of a Vaccinia Virus Infection from an Occupational Needlestick" MMWR / October 25, 2019 / Vol. 68 / No. 42
- "Vaccinia Virus." Memorial Sloan Kettering Cancer Center Institutional Biosafety Committee