

Vaccinia Virus

Poxviridae

Vaccinia is a risk group 2 virus and has historically been used as a vaccination against smallpox and other Orthopoxvirus infections. It is considered a **reproductive pathogen** as it poses a serious, though rare, risk to pregnancy, including fetal vaccinia, which can lead to stillbirth or neonatal death.

How can I be exposed to vaccinia?

- Exposure occurs via contact of broken skin with a vaccinia virus lesion or contaminated materials,
- Laboratory workers may be exposed via ingestion, parenteral inoculation, and droplet or aerosol exposure to mucous membranes.
- Vertical transmission may occur from mother to fetus across the placenta at any time during pregnancy

How can I protect myself from exposure?

- Avoid direct skin contact by wearing protective clothing and gloves.
- Avoid mucous membrane exposure by using eye/face protection for procedures that may produce splashes.
- Avoid respiratory exposure by using a biosafety cabinet or other primary containment device and wearing a respirator for procedures that may produce aerosols.
- The use of needles, syringes, and other sharp objects should be strictly limited, and additional precautions should be taken when working with animals.

What should I do if I think I've been exposed to vaccinia?

Wash the affected area immediately for 15 minutes with soap and water and seek medical attention.

What symptoms should I look for after a potential exposure?

Fever, fatigue, rash, headache, nausea, and body aches. Ulcerative skin lesions progress from papules to vesicles to lesions.

How long does it take for symptoms to develop?

Ulcerative skin lesions progress from papules to vesicles approximately 3-5 days after exposure. Vesicles become pustules after 8-10 days. At days 14-21 after exposure, the lesions dry forming a hard black crust that separates and leaves a scar.

Is there a treatment or vaccine?

Treatment involves symptom management and supportive care.

Vaccination with ACAM2000 or Jynneos is generally recommended for laboratory workers, healthcare personnel, and emergency responders.

Can I transmit it to other people?

Yes, transmission has occurred via the vaccination site when scarification method (ACAM2000) is used.

Can I transmit it to my pets?

Vaccinia can be transmitted between humans and cows, usually by touching the cow's teats.

Can it survive on surfaces?

Dried vaccinia can survive up to 39 weeks at refrigeration temperature (4°C, 39°F).

See *Pathogen Safety Data Sheet for More Information*

