



Mpox (Monkeypox): We Must Not Let Our Guard Down

The Global Virus Network recommends people and public health agencies continue taking precautions against the spread of Mpox, which is still spreading and evolving.

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This month, the World Health Organization declared an end to the Mpox emergency and urged a transition to a “robust, proactive and sustainable” response to Mpox. Although cases of Mpox have markedly decreased in the U.S. and are decreasing globally in non-endemic countries (1, 2), there are new cases across the globe, including in places where the disease is not historically found. For example, new clusters recently appeared in Chicago and France (3, 4). Of particular concern, several cases were in *recently vaccinated* individuals.

At present, there are two vaccines licensed for use by the U.S. Centers for Disease Control and Prevention in non-emergency situations: Jynneos and ACAM2000. Neither vaccine can cause smallpox or Mpox. Jynneos is a newer vaccine licensed for protection against smallpox and Mpox in adults at high risk for infection. It is a replication-deficient virus vaccine (Modified Vaccinia virus Ankara), meaning it can be used to vaccinate people with certain immune deficiencies, such as HIV or atopic dermatitis. It was developed because of safety concerns about the full-strength replication-competent version of the smallpox vaccine, ACAM2000, which can have severe side effects and can spread from the vaccine recipient to unvaccinated persons in close contact with the inoculation site or with exudate from the site. Jynneos’s efficacy is not as high, however, especially after a single dose (5-7), or even in fully vaccinated persons (8).

Routine smallpox vaccination stopped in most countries around 1970 (9), so most people under the age of 50 are fully susceptible to serious orthopoxvirus infections, including Mpox. In addition, studies show that the current anti-poxviral drugs are not sufficient to end viral infection in immunocompromised people (10, 11). Unfortunately, those with long-term infections provide the ideal circumstances for further viral evolution, allowing for new variants that may better replicate in otherwise healthy people.

Therefore, the GVN makes the following recommendations:

- Continued vigilance by the public regarding transmission of Mpox;
- Regular public health messaging about Mpox spread, including updates to messaging, as scientists are still learning more about transmission routes;
- Develop orthopoxvirus vaccines that have a good safety record, higher immunogenicity, and greater protection than currently available smallpox/Mpox vaccines;
- Develop anti-orthopoxvirus therapeutic drugs that can prevent and/or eliminate viral replication;
- Expand wastewater surveillance for detecting viruses, especially in countries where Mpox is endemic/enzootic, because such programs have been found to be very effective (12, 13); and
- Focus preventive strategies and surveillance on countries where the virus is endemic/enzootic, bringing needed protection to local populations and lowering chances of new, more infectious viral clades.

The GVN ([GVN.org](http://www.GVN.org)) is a worldwide network of virologists and physicians committed to solving viral challenges facing humanity.

Poxviruses are named for the animal in which they were first identified, but both monkeypox and cowpox viruses are carried by a wide range of rodents (14), which increases their likelihood of spread to other animal species and humans. Presently, cowpox is also of concern, causing infections in Europe. Additionally, a laboratory with relatively advanced technology can rebuild smallpox virus for use as a bioterrorism/biowarfare weapon. So it is critical to develop vaccines that protect against—as well as drugs that can treat—all these orthopoxvirus infections.

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