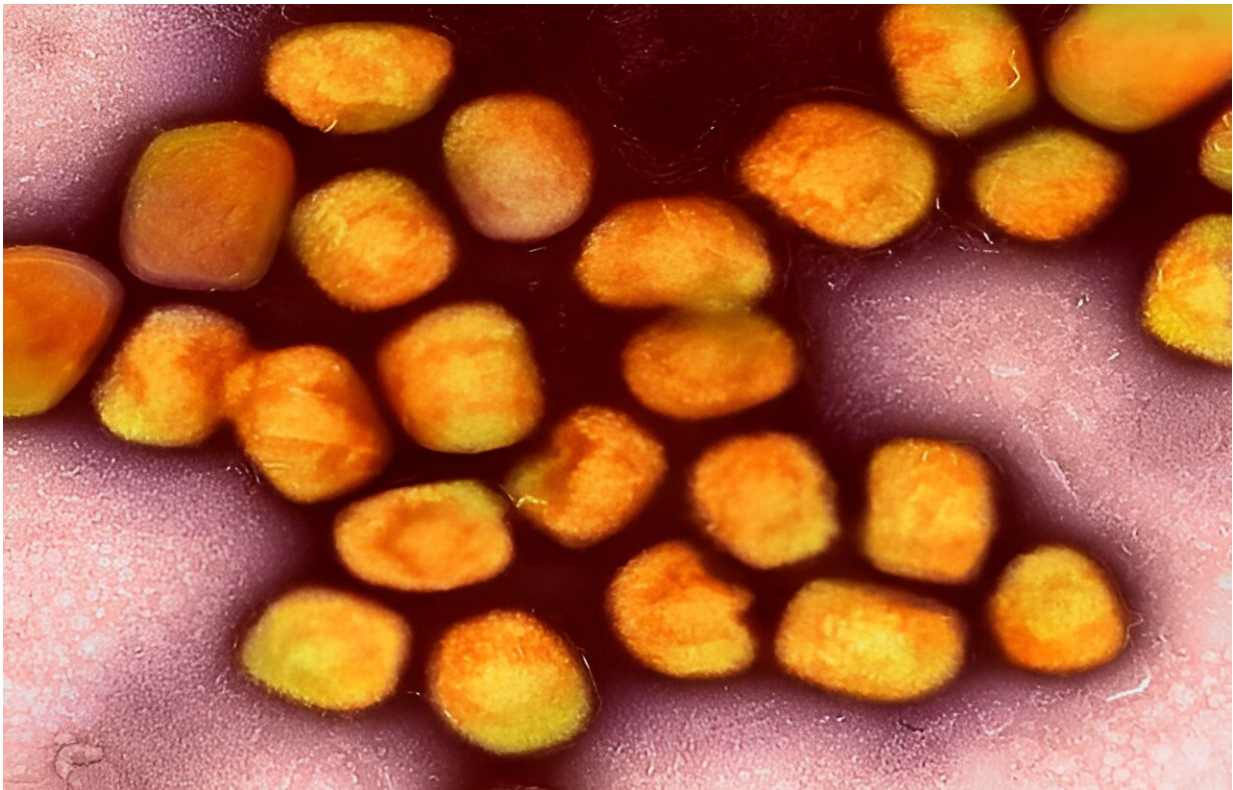


# New study shows effectiveness of mpox vaccine

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Colorized transmission electron micrograph of monkeypox virus particles (gold) cultivated and purified from cell culture. Image captured at the NIAID Integrated Research Facility (IRF) in Fort Detrick, Maryland. Credit: NIAID

A new international study led by Queen Mary University of London has shown mpox (formerly known as monkeypox) infections to be less

severe among those who are vaccinated or had a previous infection in 2022, underlining the importance and effectiveness of vaccination.

The research, published Sept. 4 in *The Lancet Infectious Diseases*, was delivered by the SHARE-net collaborative and looked at 38 mpox infections in 37 gay and bisexual men. Eight of the 38 were reinfections, and 30 infections occurred after a complete vaccination course.

In the people who had been vaccinated, the results showed that the patients had fewer lesions (abnormal tissue such as a wound or rash), less mucosal disease (diseases of the mucous membranes of the mouth and genitals), and a minimal need for pain medication or hospitalization.

The severity of symptoms was observed and assessed using the Mpox-SSS score, which was developed during the 2022 multi-country outbreak. The Mpox-SSS score is a numerical score given considering seven different factors including the number of lesions, the level of care required for the patient, the amount of pain medication needed, the extent of mucosal areas affected, and whether there is any bacterial superinfection—i.e., additional infections.

Using this [scoring system](#) it was possible to demonstrate and measure severity. In those who had been reinfected, the disease was less severe with a lesser requirement for [pain medication](#) compared to their first bout, and fewer areas of the body were affected while recovery was also faster. The first [infection](#) lasted 21 days (median) whereas the second infection lasted 15 days (median).

The study is the largest and only case series to examine both reinfections and infections after a complete vaccine course of Modified Vaccinia Ankara-Bavarian Nordic (MVA-BN).

Since May 2022, there have been more than 87,000 cases of human

mpox across 112 countries. Transmissions have primarily affected sexually active gay and bisexual men and been caused by skin-to-skin and bodily fluid contact. As evidenced by the two previous SHARE-net global case series published in the [NEJM](#) and [The Lancet](#), infection often causes rashes, fevers, and blisters. It can also lead to brain inflammation and seizures. In people with advanced HIV disease, it carries a [mortality of up to 27%](#) in the most immunosuppressed group.

Neither [natural immunity](#) from a prior mpox infection nor post-vaccination immunity can prevent someone from getting the virus. However, the study shows that the immunity from both reduces severity.

Research lead author Chloe Orkin, Professor of HIV Medicine at Queen Mary University of London and Director of the SHARE collaborative, said, "This is good news and shows that post-vaccination infections are less severe and the need for hospitalization is lower. This is clear evidence that vaccination is an important tool in reducing morbidity and controlling further outbreaks.

"We have to ensure global access to vaccinations and treatments if we want to curb this global outbreak, especially in the African regions that have been historically worst affected and are still without access to vaccines or treatment for mpox."

**More information:** Aniruddha Hazra et al, Mpox in people with past infection or a complete vaccination course: a global case series, *The Lancet Infectious Diseases* (2023). [DOI: 10.1016/S1473-3099\(23\)00492-9](#)

Provided by Queen Mary, University of London

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