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IN BRIEF

Two Doses of *Jynneos* for Mpox

The CDC is recommending that persons at high risk of mpox (see Table 1) receive two doses of the *Jynneos* vaccine. The recommendation follows reports of a recent cluster of mpox cases in the US and warnings about the risk of a renewed outbreak during the spring and summer as people gather for festivals and other events. The CDC does not recommend routine immunization against mpox for the general population.

MPOX – Mpox (formerly called monkeypox) is caused by infection with an orthopoxvirus historically transmitted by wild animals including rodents and primates. Unlike previous outbreaks, human-to-human transmission was responsible for the outbreak that began in May 2022; most cases occurred in men who have sex with men. Clinical manifestations of mpox infection include fever, headache, myalgia, chills, fatigue, lymphadenopathy, and characteristic skin lesions. Skin lesions can be present without systemic symptoms. In the recent cluster of cases reported in the US, all were in symptomatic men.¹

THE VACCINE – *Jynneos*, a 2-dose orthopoxvirus vaccine, was licensed by the FDA in 2019 for prevention of smallpox and monkeypox infection in adults at high risk. *Jynneos* contains a live, replication-deficient, modified form of the vaccinia virus Ankara (modified vaccinia Ankara [MVA]), which is closely related to the variola and monkeypox viruses; MVA does not cause disease in humans. Immunocompromised persons, including those receiving immunosuppressive therapy, may have a diminished response to the vaccine. *Jynneos* is administered subcutaneously in two 0.5-mL doses or intradermally in two 0.1-mL doses, each given 28 days apart.²

Table 1. Persons at High Risk for Mpox Infection¹

- ▶ Persons with known or suspected exposure to mpox
- ▶ Persons with a sex partner who was diagnosed with mpox within the past 14 days
- ▶ Gay, bisexual, or other men who have sex with men or transgender, nonbinary, or gender-diverse persons who had a new diagnosis of one or more sexually transmitted infections (STIs) or sex with more than one partner in the past 6 months
- ▶ Persons who had any of the following in the past 6 months: sex at a commercial sex venue, sex in an area where mpox transmission is occurring, or sex in exchange for money or other items
- ▶ Persons who have a sex partner with any of the above risks
- ▶ Persons who anticipate experiencing any of the above scenarios
- ▶ Persons with HIV or other immunosuppressed persons who have had recent or anticipate future risk of mpox exposure from any of the above scenarios
- ▶ Persons at risk for occupational exposure to an orthopoxvirus

1. CDC. Mpox vaccination basics. Available at: <https://bit.ly/43fWhm2>. Accessed June 2, 2023.

CLINICAL STUDIES – Among 917 persons included in the vaccine effectiveness analysis of *Jynneos*, two doses of the vaccine were more effective in preventing mpox infection than one dose (85.9% vs 75.2%). Among partially vaccinated participants, vaccine efficacy was 77.0% for subcutaneous and 80.6% for intradermal administration. Among fully vaccinated participants, vaccine effectiveness was 88.9% for subcutaneous, 80.3% for intradermal, and 86.9% for heterologous administration. Two doses of the vaccine were also more effective than one dose in immunocompromised persons (70.2% vs 51%). The differences between one and two doses were not statistically significant in the overall population or in immunocompromised persons.³

In an electronic health record cohort study, patients with mpox infection were less likely than controls (patients with HIV infection or a prescription for preexposure HIV prophylaxis) to have received one

or two doses of *Jynneos* vaccine. The estimated adjusted vaccine effectiveness was 35.8% for one dose and 66% for two doses of the *Jynneos* vaccine.⁴

CONCLUSION – The CDC is recommending a 2-dose series of the *Jynneos* vaccine for all persons at high risk for mpox (formerly monkeypox) infection. Two doses of the vaccine given 28 days apart offer greater protection than one dose. ■

1. CDC. Potential risk for new mpox cases. May 15, 2023. Available at: <https://bit.ly/43x4TEM>. Accessed June 2, 2023.
2. Prevention and treatment of monkeypox. *Med Lett Drugs Ther* 2022; 64:137.
3. AF Dalton et al. Estimated effectiveness of Jynneos vaccine in preventing mpox: a multijurisdictional case-control study – United States, August 19, 2022-March 31, 2023. *MMWR Morb Mortal Wkly Rep* 2023; 72:553.
4. NP Deputy et al. Vaccine effectiveness of Jynneos against mpox disease in the United States. *N Engl J Med* 2023 May 18 (epub).

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