

What is monkeypox?

Monkeypox is a viral infection caused by an orthopoxvirus. It is best known for the pus-filled blisters that appear initially on the face and then spread to the rest of the body. This virus is "zoonotic", meaning it originated in animals and then spread to humans. Monkeypox was first identified in 1958 when monkeys used for research had two separate outbreaks while in captivity. The infection is rare in humans and is harbored in small African rodents and, less commonly, wild monkeys and other primates. It is not completely clear how the infection moves to humans, but direct contact with infected animals (bite, eating, in clothes/sheets, etc) is associated with transmission.

Two different strains of monkeypox cause infection in humans, first identified in West Africa and in Congo. There are likely other strains or mutations, making identification and diagnosis more challenging. Statistics from past outbreaks support a 1% mortality (1 of 100 dies) with West African Strain and a 10% (1 in 10 dies) mortality with Congo. A West African Strain is believed to be responsible for this global outbreak. Currently, there have been no deaths in the US related to monkeypox. It is likely that advanced medical care may dramatically reduce the mortality of the disease.

What are the symptoms of Monkeypox?

Fever is the most common initial symptom of acute infection, followed closely by swollen lymph nodes. Other typical "flu-like" symptoms during the first 7-14 days include headache, body aches, chills, and fatigue. A characteristic rash, often initially on the face and spreading to the rest of the body, typically begins 1-3 days after the fever starts. The rash progresses through various stages and can be painful or itchy.



Macule and Papule; Red and inflamed, occasionally raised



Vesicles (fluid-filled blisters)



Pustule (filled with white, purulent fluid)



Scabs (hard-crusted lesions)

How does Monkeypox spread?

Monkeypox spreads primarily through direct contact with fluid from a skin lesion or through contact with materials (clothing, bedsheets, etc.) that have contacted the fluid from monkeypox sores. Prolonged face-to-face contact can allow the virus to be spread through respiratory droplets—although this needs to be prolonged. The infection can be sexually transmitted (current outbreak associated with men having sex with men). It is not clear if semen or vaginal fluids can transmit the virus. Classically, asymptomatic individuals (early in infection) cannot transmit the virus to others until after symptoms develop.

Is there a test to diagnose Monkeypox?

Yes. A specific test allows for the detection of unique sequences of viral DNA in monkeypox. Known as a PCR (polymerase chain reaction) test, swabs are used to collect samples of fluid from multiple lesions. Currently, local health departments should be contacted prior to collecting samples to ensure proper procedures and to allow for contact tracing (monitoring possible contacts for infection). Strict PPE (i.e., mask, gloves, protective gown) must be worn while swabbing lesions. Results are generally available in 48 hours.

Is there a vaccine for Monkeypox?

Two vaccines used to prevent or limit smallpox infection have an effect on preventing or limiting monkeypox disease prior to exposure to the virus, but they are not yet readily available. Small medical trials have shown the vaccine 85% effective against monkeypox. Vaccination after exposure or potential exposure should be considered. The sooner the vaccine is given, the more effective it will be. In almost all situations, the risks of infection are greater than the risks of the smallpox vaccine. People with concerns about the vaccine should discuss their concerns with their provider prior to vaccination.

Can Monkeypox be prevented?

Isolation of known or suspected people with monkeypox infection is a primary prevention strategy. For people who will be exposed to patients with monkeypox, the use of personal protective equipment, handwashing, and other hygiene measures to prevent the spread are vital. The CDC also recommends masking on public transportation to limit droplet transmission.

Can Monkeypox infection be treated?

The majority of monkeypox infections resolve on their own and patients improve without any significant long-term negative effects. Patients with severe disease or high risk for severe disease should discuss treatment options with their provider. While there is no specific treatment for monkeypox infection, antivirals have been developed for smallpox and may have some beneficial effects against the disease.

What should I do if I'm concerned that I may have been exposed or I might be infected?

Anyone with concerns about possible infection should discuss their situation with a healthcare provider (MD/DO/NP/PA). Patients with higher risk criteria should be given special consideration. These include:

- Contact with someone with similar rash or has received monkeypox diagnosis or is suspected of having monkeypox
- Intimate or close contact with higher risk populations, men having sex with men outside of a controlled social network
- Traveled to a country with confirmed cases of monkeypox or to areas were monkeypox is more common
- Contact with animals from Africa or products derived from African animals (meat, topical creams, etc.)

Quarantine of up to 21 days will likely be recommended for the above if symptoms of infection have not developed. This should be coordinated with state and local public health facilities.

Will it cause a pandemic?

CDC and WHO are following the outbreak closely. There are some important differences between COVID-19 and Monkeypox making it less likely expand into a pandemic. Compared with the recent COVID-19 pandemic, Monkeypox spreads much more slowly and is considerably less contagious. Generally, monkeypox is not spread by people who are asymptomatic. Additionally, we already have vaccines and treatments for Monkeypox.

	Monkeypox	Chicken Pox	Small Pox (Eradicated)
Virus	Monkeypox virus, orthopoxvirus	Varicella-zoster virus	Variola virus, orthopoxvirus
Fever	1-5 days before rash	1-2 days before rash	2-4 days before rash
Infection to symptoms	5-21 days	10-21 days	7-19 days
Duration of illness	2-4 weeks	4-7 days	Up to 5 weeks
Swollen lymph nodes	Yes	No	No
Rash appearance	Starts on face, spreads to rest of body including palms and soles of feet	Itchy, blister-like rash. Starts on chest, back and face. Not palms and soles	Small spots on tongue, followed by rash on face, spreads to rest of body including palms and soles of feet
Death	1-10% of cases, depending on strain	Rare	Up to 30% of cases