

# What is Monkeypox and Should We Be Worried?



Cases of the viral infection known as monkeypox, which is related to smallpox, have been reported worldwide. One case has been identified so far in Massachusetts while another is under investigation in New York, and a handful of other cases have been reported in Canada, the U.K. and several European countries.

What is monkeypox? Monkeypox is in the same family as smallpox, but it's less severe. Symptoms generally start with fever, swollen lymph nodes, muscle aches, chills and fatigue. Peter Chin-Hong, a UCSF infectious disease expert, said the "dead giveaway" is a rash in the form

of pus-filled blisters that develop after the initial symptoms.

*"The hallmark of the disease is a characteristic 'pox' rash ... that starts on the torso and then moves to the extremities,"* Chin-Hong wrote in an email. *"Nothing else looks like it."*

**Is monkeypox deadly?** Chin-Hong said monkeypox can kill up to 10% of those infected, but it depends on the strain. He said the currently circulating version is thought to carry a less than 1% mortality rate.

Seth Blumberg, an assistant professor of medicine at UCSF who specializes in infectious diseases, said monkeypox can cause severe disease and death, but it's **not as "severe as smallpox in terms of mortality risk."** He said the level of mortality depends on a number of factors including the "strain one gets, background of one's general health, nutrition status as well as access to modern healthcare including antibiotics."

**How is monkeypox transmitted?** According to the Centers for Disease Control and Prevention, monkeypox was first discovered in 1958 when two outbreaks of the disease occurred in research monkeys, which is how it got its name. The first human case was reported in 1970 in the Democratic Republic of Congo. Monkeypox has mostly been localized to central and western African countries, but past cases have been reported around the world. In the U.S., an outbreak was caused by imported mammals in 2003, and there were two travel-related cases in 2021. Blumberg said calling it "monkeypox is a bit of a misnomer," because "it mostly affects rodents like squirrels and rats."

**How do humans get it?** UCSF's Chin-Hong said humans usually get monkeypox via **contact with infected animals, such as through bites or scratches.**

*"Human-to-human transmission is rare, as the virus does not traditionally favor humans as a host,"* he said, *but added that it "can be spread by exchange of body fluids in prolonged kissing or potentially sex, and like influenza can also be spread by droplets."*

Blumberg said studies from the 1980s showed that the potential for human-to-human transmission has a reproductive number of less than 1, meaning each infected person would infect fewer than one other person. Therefore "human-to-human transmission is not self-sustaining," he said. But this current outbreak "spans a big geographic region" so the crossover is greater now, Blumberg said, which means the virus could "potentially be self-sustaining."

**What do we know so far about this current outbreak?** Chin-Hong said it "doesn't follow the normal obvious rules of transmission," which is usually a traveler coming from west or central Africa, or exposure to infected animals.

"Either there was a lot of close contact and these cases were linked by a social or sexual network, or the virus has evolved to transmit more efficiently from human to human," he said. "The outbreak could grow larger. ... But I would be surprised if it spread to large epidemic numbers."

Chin-Hong explained that the idea is some of these patients in the different clusters "might have been linked by **a social and sexual network,**" or "several networks" for those who don't know each other.

**How is it similar to and different from COVID?** Blumberg said "the initiation of monkeypox involved animal-to-human transmission." Some of the **initial symptoms are similar to COVID: fever, headache muscle aches, chills and fatigue.**

**Like COVID, there is a vaccine that can be protective against monkeypox.** According to the CDC, past data from Africa suggests the smallpox vaccine is 85% effective in preventing monkeypox.

**Should we be concerned? Experts say there is no cause for alarm yet.**

“The transmission potential is not that significant” Blumberg said.

He added that developing a fever and rash could be a sign of other, more common illnesses, such as chicken pox, shingles or herpes simplex, and it’s recommended to go see a doctor with any worrisome symptoms.

**“It’s unlikely to be monkeypox unless you travel to an area,” where it’s spreading,** he said.

**Chin-Hong doesn’t think people need to be concerned yet.**

“Most patients so far do well without any antiviral or antibody treatment. ... The virus does not generally like being in humans and prefers rodents.”