
Monkeypox

Frequently Asked Questions

1. What is monkeypox?

Monkeypox is caused by infection with monkeypox virus, a member of the genus *Orthopoxvirus* in the family *Poxviridae*. There are currently more than 80 poxviruses known to science and these poxviruses have been isolated from different species of birds, insects, reptiles, marsupials and mammals. Poxviruses that may cause human disease include the smallpox (or variola) virus and molluscum contagiosum virus. The former was eradicated by 1980 by mass-vaccination programs. In addition human disease can be caused by infection with other poxviruses including monkeypox, orf, cowpox and Tanapoxviruses. These viruses are harbored by different animal species and may spillover to the human population (i.e. they are zoonotic viruses) when there is sufficient exposure. These viruses are not highly transmissible from person-to-person.

2. Where does monkeypox occur?

Monkeypox was first discovered in 1958 in Denmark when two outbreaks of a pox-like disease occurred in colonies of monkeys kept for research, hence the name 'monkeypox.' The naming of the virus is being reviewed in the face of the 2022 multi-country outbreak. The first human case of monkeypox was recorded in 1970 in the Democratic Republic of Congo. Monkeypox has been historically reported from several countries from central and western Africa. This distribution of monkeypox virus is attributed to the fact that it is naturally harboured by animals that are found in this part of Africa. It is believed that rodents, most likely certain species of squirrels found in the deep forested areas of this region of Africa, may be the natural host of the virus. Monkeypox infections in humans have historically been noted in these countries albeit at a relatively low level. An increase of human monkeypox have been noted in recent years from Nigeria but also other locations in the Region. Human cases of monkeypox have been reported outside of countries where the virus has historically been reported including in the USA in 2003 in an outbreak related to the exotic pet trade (with exportation of animals from Ghana). In addition, cases of monkeypox have been reported in Israel, Singapore and the United Kingdom. On 13th May 2022, World Health Organization (WHO) was notified of two laboratory confirmed cases and one probable case of monkeypox, from the same household, in the United Kingdom. Since the disease has been detected in a number of European countries, the USA, Canada, Australia, the United Arab Emirates, Morocco and South Africa. Updates on the development of this outbreak is available from the NICD website. Also see <https://map.monkeypox.global.health/country> for updated figures from the multi-country outbreak.

3. How is monkeypox virus transmitted?

Monkeypox virus can be transmitted to a person upon contact with the virus from an animal, human, or materials contaminated with the virus. Entry of the virus is through broken skin, respiratory tract, or the

mucous membranes (eyes, nose, or mouth). In countries where the natural animal host of the virus are found, the monkeypox virus may be spread from handling infected bush meat, an animal bite or scratch, body fluids and contaminated objects. Monkeypox infection has been found in many animal species: rope squirrels, tree squirrels, Gambian rats, striped mice, dormice and primates. Certain species of rodents are suspected of being the main disease carrier or host (reservoir host) of monkeypox, although this has not been proven yet. In countries where zoonotic transmission is not reported, persons are most likely to be exposed to monkeypox through contact with an individual that is already sick with monkeypox. Cases of monkeypox spreading through animals, outside of the endemic areas, are very rare, but may involve the exotic pet trade or potential through contact with infected animal-derived materials such as skins and leather. Person-to-person transmission involves close contact with an infected person or materials that have been contaminated by an infected person.

In the context of the 2022 multi-country outbreak a notable mode of transmission has been through sexual contact. A risk factor identified from early epidemiological investigations is having multiple sexual partners. It is also believed that several large social gathering may have served as super spreading events aiding in the international spread of the virus.

4. What are the signs and symptoms of monkeypox?

The incubation period (time from infection to symptoms) for monkeypox is on average 7–14 days but can range from 5–21 days. Initial symptoms include fever, headache, muscle aches, backache, chills and exhaustion. Within 1-3 days of onset of disease, blister-like lesions will develop on the face, the extremities including soles of the feet and palms of the hands. The lesions may however occur on other parts of the body. Localization of lesions are also often reported and a common finding during the 2022 multi-country outbreak has been localization of lesions at the genital and per-genital areas. The number of lesions will vary and typically will be at the same stage of development and roughly the same size. The lesions progresses through several stages before scabbing over and resolving. Most human cases resolve within 2-4 weeks of onset without side-effects. The case fatality rate in more recent outbreaks (involving the “Western Africa clade”) have been on average 1%. There are many other causes of rash illness, many of which are fairly common, that may be managed or treated in different ways.

5. When is a monkeypox infected person no longer contagious?

An infected person is contagious from the onset of the rash/lesions through the scab stage. Once all scabs have fallen off, a person is no longer contagious.

6. How is monkeypox diagnosed?

Monkeypox is diagnosed by a healthcare worker in consideration of the clinical presentation of the patient. The nature of the rash would be the most telling sign. However, the healthcare worker will consider possible exposures for the case with the consideration that the likelihood of contracting monkeypox is very low. Many other diseases, such as chickenpox, hand-foot-and-mouth disease, herpes, and other bacterial and fungal causes of rash, may cause somewhat similar rashes and are more common. Samples can be tested at the National Institute for Communicable Diseases to confirm a diagnosis of monkeypox. For more information on laboratory testing of monkeypox, refer to the NICD website.

7. How is monkeypox treated?

Treatment is supportive, as with most viral infections. Most human cases of monkeypox virus infection do

not require any specific treatment and the disease resolves on its own. There are anti-viral drug that a clinician may consider to use for treatment of more severe cases of monkeypox on a case-by-case basis.

8. How can monkeypox be prevented?

The monkeypox outbreak can be controlled by diagnosis and laboratory confirmation of cases. This allows for contact tracing and monitoring to enable the pro-active recognition of any other linked cases of monkeypox. It is recommended that confirmed cases of monkeypox isolate to ensure that risk of transmission is minimized. Isolation may be through self-isolation at home if circumstances allow, but cases may be isolated in hospital if so required. Currently the World Health Organization is not recommending mass-vaccination as a measure to contain the outbreak.

9. Vaccines for monkeypox

The smallpoxvirus (virus that caused the now eradicated smallpox disease in humans) and monkeypoxvirus is closely related. Smallpox vaccination which was provided through mass-vaccination programs during the smallpox eradication program provides some level of cross-immunity to monkeypox. Residual immunity from smallpox vaccination in the population aged 40 (in South Africa smallpox vaccination was abandoned during 2980) and above may also contribute to preventing cases or lead to more mild infections. There is about 85 % protection offered by the smallpox vaccine (which was used to eradicate the human pox virus disease known as smallpox) and monkeypox.

Currently the World Health Organization (WHO) is not recommending mass-vaccination as a measure to contain the outbreak.

10. What is the risk of contracting monkeypox in South Africa?

The implications for South Africa are that the risk of importation of monkeypox is a reality as lessons learnt from COVID-19 have illustrated that outbreaks in another part of the world can fast become a global concern. The WHO has not recommended any travel restrictions and are working with the affected countries to limit transmission and determine sources of exposure.

The risk of monkeypox to the South African population remains low, given the low transmissibility of the virus.

11. Where can I find more information?

Laboratory results and queries:

Dr Jacqueline Weyer 011 386 6376/jacquelinew@nicd.ac.za

Dr Naazneen Moolla 011 386 6338/naazneenm@nicd.ac.za

Clinical queries (Healthcare workers only):

NICD Doctor on Call 0800 212 552

Outbreak related queries:

NICD Outbreak Team outbreak@nicd.ac.za

Media/Press queries:

Ms Sinenhlanhla Jimoh sinenhlanhlaj@nicd.ac.za

Other:

Guidelines and other useful resources are available on the NICD website: www.nicd.ac.za/monkeypox

Centers for Disease Control and Prevention, Atlanta, United States of America.

<https://www.cdc.gov/poxvirus/monkeypox/index.html>

World Health Organization. <http://www.who.int/mediacentre/factsheets/fs161/en/>