

MONKEY POX

ABOUT THE VIRUS:

Incubation period
ranges from 5 to 21 days.

Illness
typically lasts for 2 to 4 weeks.

Infectious period
lasts until all scabs or crusts have fallen off.

Transmission modes
include airborne/aerosol, droplet, and contact.

FACTSHEET: What Nurses Need to Know

WHAT IS MONKEYPOX? Human monkeypox is a zoonotic viral disease caused by the monkeypox virus, which belongs to the same family of viruses as smallpox. The first human case was identified in 1970.¹ Monkeypox is considered a re-emerging disease that has caused multiple localized outbreaks since 2017. The monkeypox virus is now spreading rapidly in many countries that have not historically had cases.

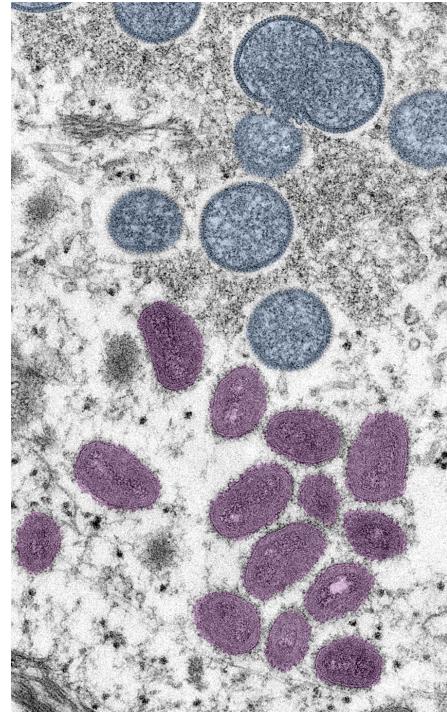
WHAT ARE THE SYMPTOMS AND COMPLICATIONS OF MONKEYPOX?

► **Monkeypox can have wide-ranging clinical manifestations, including:**

- Rash or skin lesion on the face, inside the mouth, hands, feet, chest, and other parts of the body. Skin lesions may vary in size and range from a few to several thousand² and may look like pimples or blisters.
- Fever
- Headache
- Chills
- Cough
- Sore throat
- Exhaustion
- Swollen lymph nodes
- Myalgia (muscle and back aches)
- Asthenia (profound weakness)

► **While monkeypox is usually self-limiting and spontaneously resolve within a few weeks, some individuals (e.g., children, pregnant women, and immunocompromised persons) may experience serious health complications including³:**

- Sepsis
- Encephalitis
- Secondary infections
- Bronchopneumonia
- Abscess and airway obstruction
- Corneal infection and vision loss



HOW IS MONKEYPOX TRANSMITTED? Human-to-human monkeypox transmission, including nosocomial and household transmission, has been well documented. Monkeypox can be transmitted through **close contact** with an infected animal (e.g., rodents), human, or fomites (e.g., contaminated clothing or bedding) and through **infectious aerosols** emitted by patients in the infectious period. The virus can enter the body through the respiratory tract, broken skin (even if not visible via contact with bodily fluids), or mucous membranes (eyes, nose, or mouth).

►►►► *continued*

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Prolonged upper respiratory tract viral shedding from patients with monkeypox has been documented even after skin lesion resolution.⁴ Transmission from viral shedding may also begin prior to the onset of rash.⁵ Asymptomatic cases have been documented both prior to and during the 2022 outbreak;⁶ however, it's unclear how common asymptomatic or pre-symptomatic cases are. For example, three monkeypox asymptomatic cases were recently identified (June 2022) in Belgium, which indicates that the virus may be transmitted in the absence of symptoms.⁷

WHAT PROTECTIONS DO NURSES AND OTHER HEALTH CARE WORKERS NEED TO CARE FOR A PATIENT WITH CONFIRMED OR SUSPECTED MONKEYPOX? Monkeypox must be treated with airborne, contact, and droplet precautions.

- Suspected or confirmed monkeypox cases must immediately be placed in airborne infection isolation rooms (also called a negative pressure room).
- Nurses and other health care workers should have the highest level of personal protective equipment (PPE) when caring for patients with suspected or confirmed monkeypox.
 - **Highest level of PPE for monkeypox:** powered air-purifying respirator (PAPR), coveralls impermeable to viral penetration that incorporate head and shoe covering, and gloves.
 - **Minimum level of PPE for monkeypox:** fit-tested, single-use N95 respirator, isolation gown, goggles, and gloves.
- Infectious monkeypox virus can be resuspended in aerosols when contaminated objects (e.g., bedding, clothing, or PPE) are shaken or moved. Monkeypox virus particles have also been found to retain infectivity in aerosols from 18 to 90 hours.⁸
 - Strict procedures for donning and doffing PPE upon entry and exit from the patient's isolation room must be followed.
 - Cleaning protocols must be observed after each doffing for PPE designed to be reused (e.g., PAPRs).

1 • Ježek et al., "Human Monkeypox: Clinical Features of 282 Patients," *The Journal of Infectious Diseases*, August 1987, <https://doi.org/10.1093/infdis/156.2.293>

2 • ibid.

3 • World Health Organization, "Monkeypox," last updated May 2022, <https://www.who.int/news-room/fact-sheets/detail/monkeypox#:~:text=Complications%20of%20monkeypox%20can%20include,infection%20may%20occur%20is%20unknown>.

4 • Adler et al., "Clinical features and management of human monkeypox: a retrospective observational study in the UK," *The Lancet Infectious Diseases*, May 2022, [https://www.thelancet.com/journals/laninf/article/P1151473-3099\(22\)00228-6/fulltext](https://www.thelancet.com/journals/laninf/article/P1151473-3099(22)00228-6/fulltext)

5 • Nolen et al., "Extended Human-to-Human Transmission during a Monkeypox Outbreak in the Democratic Republic of the Congo," *Emerging Infectious Diseases*, June 2016, https://wwwnc.cdc.gov/eid/article/22/6/15-0579_article

6 • Hammurland et al., "Multiple diagnostic techniques identify previously vaccinated individuals with protective immunity against monkeypox," *Nature Medicine*, August 2005, <https://www.nature.com/articles/nm1273>

7 • De Baetselier et al., "Asymptomatic Monkeypox Virus Infections Among Male Sexual Health Clinic Attendees in Belgium," *The Lancet*, June 2022, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4142074

8 • Verreault, Daniel et al. "Susceptibility of monkeypox virus aerosol suspensions in a rotating chamber," *Journal of Virological Methods* vol. 187,2 (2013): 333-7. doi:10.1016/j.jviromet.2012.10.009.