NATIONAL INSTITUTE FOR COMMUNICABLE DISEASES
Division of the National Health Laboratory Service

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CENTRE FOR EMERGING ZOONOTIC AND PARASITIC DISEASES
OUTBREAK RESPONSE UNIT, DIVISION OF PUBLIC HEALTH SURVEILLANCE AND RESPONSE

Tanapox
Frequently Asked Questions

1. What is tanapox virus?

Tanapox is a very rare zoonotic disease caused by the *Tanapox virus* (TANV). This virus belongs to the *Poxviridae* family of viruses, but is very different from other poxviruses which have been associated with human disease (including cowpox, mpox, smallpox, molluscum contagiosum, and orf). A member of the *Yatapoxvirus* genus, TANV was first described following epidemics in 1957 and 1962 in the Tana River Valley of Kenya.

2. Where does tanapox occur?

Tanapox, a rarely diagnosed zoonosis, was thought to be endemic to only the tropical equatorial regions of Africa for many years. Over a 40-year period from 1957 to 2003 human tanapox disease has been sporadically identified across the breadth of Africa; spanning more than 6,000 kilometres from Sierra Leone to Tanzania. Three cases of tanapox that were reported in travellers returning from Africa. The general locations visited by the travellers included, southeast Republic of Congo, Bagamoyo district of Tanzania, and Sierra Leone. In 2022, The first human case identified in South Africa was in a traveller to the Kruger National Park (24° south of the equator). This is the southernmost record for this disease, as previously, all reported human cases were associated with exposures within 10° north or south of the equator. Prior to the case reported in South Africa in 2022, the disease was detected in an American traveller to Democratic Republic of Congo in 2003. In 2024, two cases of tanapox were also identified from individuals with exposures in the southern area of Kruger National Park. Other than these ad hoc reports of the disease, little is known about the natural ecology and epidemiology of the disease.

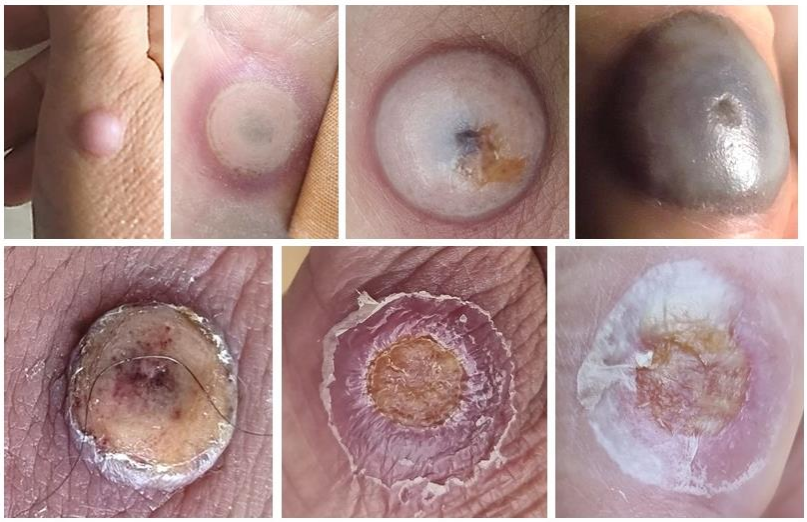
3. How is tanapox virus transmitted?

Tanapox is considered to be zoonotic (i.e. infection from an animal to a human). It is thought to circulate amongst wild non-human primates and be transferred mechanically (i.e. through contaminated mouthparts) to incidental hosts through mosquito bite. Non-human primates were the only animals to test positive in sero-prevalance studies which has been conducted implicating them as possible reservoir. Culicine mosquitoes are considered to be the possible vector of the virus from infected primates. This hypothesis is based on the timing of tanapox reports, which follows periods of high rainfall when the population size of these mosquitoes increases. Transmission from primates to humans have only occurred in the laboratory environment through direct inoculation from infected animals through scratches. No definitive cases of human to human transmission have yet been reported.

4. What are the symptoms associated with tanapox?

The incubation period of the disease is unknown but likely less than seven days. Tanapox presents as a mild febrile illness with discernible lesions appearing at the exposure site/s. Patients report fever (>39 °C for 1-4 days), headache, fatigue and myalgia. Swollen lymph glands near to the region where the lesion/s occurs are found. Typically, disease self-resolves fairly quickly.

Most people have from 1-3 lesions typically appearing at about the same time. Lesions generally occur on exposed body parts (hands, forearms, lower legs) not covered by clothing, excluding the face and soles of the feet. A lesion begins as a tender, small, discoloured, raised papule that enlarges, usually with inflammation and oedema or swelling of the surrounding skin. This then develops either into a large nodule (1-2 cm) with a distinct depression in the middle (umbilication), or into a crusted ulcer (1 cm) with a raised rim and a central depression. The lesions are hard and not particularly vesicular. Lesions are sometimes painful and itchy. Nodules and ulcers usually heal spontaneously within 6 weeks, and may result in scarring. No human deaths have been associated with tanapox to date.



The development of a tanapox lesion from the first appearance of a nodule, the enlargement and flattening of the nodule which becomes surrounded by erythematous inflammation, the swelling of the lesion and development of the central 'dent' (umbilication), and the gradual ulceration and drying of the lesion. This process occurs over a period of about 6 weeks.

Some of these images have been published in *Emerging Infectious Diseases 2023; 29(6): doi.org/10.3201/eid2906.230326* and is used with consent of the patient.

5. Who can get tanapox?

TANV infection can occur in people of any age or sex. There is no data on tanapox in immuno-compromised individuals. Based on historical observations, tanapox in people have been reported in geographical areas where non-human primates are found, culicine mosquitoes are presented and when climatic conditions would allow for mosquito population increases (i.e. following heavy rainfall). Waterbodies are often present in these areas.

6. How is tanapox treated and prevented?

Although tanapox causes discomfort and the lesions can be unsightly, the lesions are not life-threatening and usually heal without intervention. There is no specific treatment for tanapox. There is currently no vaccination against tanapox. Vaccination against smallpox (and/or mpox), does not protect against TANV.

The use of mosquito repellents is recommended when there is a risk of mosquito exposure. Use the repellents as directed by the manufacturer. Other mosquito avoidance measures, such as wearing light and loose clothing can further reduce the risk of exposures to arthropod-borne diseases. When diagnosed with tanapox, cover lesions loosely with cotton bandage to reduce possible risk of transmission.

7. How is tanapox diagnosed?

Tanapox is suspected in patients presenting with lesions (see section 4) that may be in keeping with a diagnosis of tanapox. The diagnosis may be investigated through laboratory testing at the National Institute for Communicable Diseases. Testing involves PCR for the detection of viral DNA in dry swab/s collected from the lesion/s. Other tests such as histology and electron microscopy may also be useful.

8. Where can I find more information?

Laboratory results and queries:

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Clinical queries (Healthcare workers only):

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