



21<sup>st</sup> August 2024

## **Circular for Doctors regarding Monkeypox (Mpox)**

**WHO has just declared monkeypox (Mpox) outbreak a public health emergency of international concern.**

### **Epidemiology of Mpox**

Mpox (formerly referred to as monkeypox) is a viral disease caused by the *Monkeypox virus* (MPXV), usually transmitted from animals to humans, and that is present in the wildlife in several regions towards central and west Africa.

MPXV is subdivided into 2 different genetic clades, clade I and clade II (each having subclades a and b) with clade I being associated with more severe symptoms and increased mortality.

In 2022, a large outbreak of mpox was identified for the first time in many previously non-endemic countries worldwide, including EU/EEA countries. The outbreak was driven mainly by sexual human-to-human transmission of MPXV clade II. In the EU/EEA, where low-level circulation of MPXV clade II continues, the majority of cases have been among men who have sex with men.

Since November 2023, the Democratic Republic of the Congo (DRC) has seen a significant increase in mpox cases due to MPXV clade I. According to the Africa CDC Epidemic Intelligence Report issued on 9 August 2024, over 17000 mpox cases have been reported in Africa in 2024 with over 500 deaths. The rapid rise of the clade I variant with consequent geographical spread to other African regions prompted the World Health Organization (WHO) to declare a public health emergency of international concern in August 2024.

On 15<sup>th</sup> August 2024, an imported cases of MPXV clade Ib was reported by Sweden with more imported cases being expected in the EU/EEA.

Evidence is still emerging regarding transmission routes and transmission dynamics in the clade I outbreak in African countries, but multiple modes are being reported, including sexual and household transmission.

### **Countries with reported ongoing active transmission related to current outbreak.**

Mpox cases have been reported in Burundi, Cameroon, Central African Republic, Republic of the Congo, Cote d'Ivoire, Democratic Republic of Congo (DRC), Ghana, Liberia, Kenya, Nigeria, Rwanda, South Africa and Uganda. Both MPXV clade I and clade II are circulating in different countries in the African continent.

### **Risk of MPXV clade I**

According to the latest [Risk assessment for the EU/EEA of the mpox epidemic caused by monkeypox virus clade I in affected African countries \(europa.eu\)](#), the likelihood of infection with MPXV clade I for those travelling to or living in the affected areas and having close contact with affected communities is high, while the likelihood of infection is low if one avoids contact with affected communities. Currently, the overall risk for the general population in EU/EEA is assessed as low, due to very low likelihood and a low impact, however the likelihood of infection for close contacts of mpox cases is high.



## Signs and Symptoms

Mpox symptoms generally appear 6-13 days after infection, ranging from 5 to 21 days. The illness typically lasts for two to four weeks. Mpox infection is usually a mild, self-limiting illness, and most people recover within a few weeks. However, severe illness can occur in some people especially if immunocompromised. Initial symptoms of mpox include fever, headache, muscle aches, backache, swollen lymph nodes, chills, and exhaustion. Within three days from the onset of the prodrome symptoms, a rash develops.

The rash evolves sequentially from macules (lesions with a flat base) to papules (slightly raised firm lesions), vesicles (lesions filled with clear fluid), pustules (lesions filled with yellowish fluid), and crusts which dry up and fall off. The number of lesions varies from a few to several thousand. In severe cases, lesions can coalesce until large sections of skin slough off. Typically, and in contrast to chickenpox, the rash develops at the same stage in all areas.

### Key Characteristics of Mpox Rash



### More Mpox Rash Photos

Photo Credit: NHS England High Consequence Infectious Diseases Network



The lesions may be centrally depressed and can be extremely itchy. Secondary bacterial infection may rarely occur if scratching occurs. Prior to and concomitant with the rash, lymphadenopathy is observed in many patients, which is usually not observed in varicella.

A person can be infectious during the prodromal phase and remains contagious until after all the scabs have dried and fallen off and a fresh layer of intact skin has formed underneath.

## Differential diagnosis

The clinical picture of monkeypox may be similar to that of some other viral illnesses, in particular chickenpox. There are however certain features that are specific to each disease that may help to distinguish



between them. Please refer to the table in Annex I for further information on how to distinguish between different vesicular rashes.

### **Mode of Transmission**

MPXV transmission to humans can occur through close contact with an infected animal or human, or by **touching virus-contaminated materials**. The virus enters the body through broken skin, the respiratory tract or the mucous membranes. It can also enter the body through bodily fluids, lesion material, or indirect contact with lesion material. Human-to-human transmission of mpox occurs through close contact with infectious materials from the skin or mucosal lesions of an infected person, respiratory droplets in prolonged face-to-face contact, and fomites. The risk of infection increases after sexual exposure.

### **Treatment and Vaccination**

There is no specific treatment for mpox although antivirals can be effective for severe cases. Tecovirimat is well-tolerated and safe, and the provided clinical benefit comes to those who are treated early and with severe disease at hospital level. Symptomatic and supportive treatment can be provided to alleviate fever, pruritus, pain and provide hydration as required and to prevent secondary bacterial infection.

There is no specific vaccine for monkeypox, but there is a vaccine against smallpox (MVA-BN, also known as Imvamune, Imvanex or Jynneos) that does offer protection (at least 85% effective in preventing monkeypox) if given before or within a few days of exposure. This is because the monkeypox virus is closely related to the virus that causes smallpox (orthopoxvirus).

People who have been vaccinated against smallpox in the past will also have some protection against monkeypox. The original smallpox vaccines are no longer available to the general public, and people below the age of 50 years are unlikely to have been vaccinated.

The mpox vaccine (JYNNEOS) is currently being provided free of charge by the Health Department to individuals deemed to be at high risk of being infected with the Mpox virus, according to specified protocols. Individuals who are identified as being high risk will be guided with regards to vaccination by the health authorities. The vaccine is not available for procurement from private clinics/pharmacies and is not available for travel purposes.

### **Laboratory Testing**

Testing is based in the detection of the Orthopoxvirus monkeypox (MPXV) in a clinical specimen. The best method to test for MPXV is by swabbing skin lesions (vesicle pustule exudate or lesion crusts) using a regular swab (dry flocculated swab) transported in a viral transport medium. For detailed instructions of how to take a proper swab from a suspected case please refer to Annex II.

### **When to suspect mpox infection**



Healthcare practitioners should consider monkeypox infection as a differential diagnosis for individuals presenting with:

1. An unexplained rash (see description above) on any part of their body, AND
  - one or more other symptom(s) of mpox infection (fever, headache, back ache, fatigue, lymphadenopathy (localised or generalised) AND
  - EITHER has an epidemiological link to a confirmed or probable case of monkeypox in the 21 days before symptom onset
  - OR reports travel to mpox endemic countries or countries with active mpox transmission in the 21 days before symptom onset
  - OR is a person (of any sexual orientation) who had multiple or anonymous sexual partners in the 21 days before symptom onset
  - OR is a man who has sex with men (MSM)

OR

2. An unexplained generalised or localised maculopapular or vesiculopustular rash with centrifugal spread, with lesions showing umbilication or scabbing, lymphadenopathy and one or more other mpox-compatible symptoms (fever, headache, backache, fatigue, lymphadenopathy (localised or generalised).

**It is advised that anyone examining a suspected case of mpox should wear the appropriate PPEs: N95 mask, visor, gloves, gown. Areas where the patient had direct contact should be decontaminated with a chlorine-based disinfectant or a proprietary product possessing virucidal properties.**

### **Procedure to follow when examining suspected mpox cases**

Should you encounter a patient who you suspect may have mpox infection:

- Ensure that you take all precautions to protect yourself/staff/other patients (see above). Avoid touching skin lesions with bare hands, wear disposable gloves, and observe strict hand hygiene.
- If patient presents to the GU clinic, Dermatology, A&E, Health Centre and fits criteria for suspected case described above, they need to be tested and IDCU Public Health is informed once test taken.
- If presents to a private GP clinic and fits criteria for suspected case described above, patient should be instructed to go home using private transport and isolate with immediate effect and contact Telemedicine Centre on 21231231 for further guidance.
- **In cases where patient's condition appears to be serious and may require admission to hospital:** Contact A&E prior to sending patient to inform them of patient's referral for planned isolation and management.



- Should you have examined the patient without wearing PPEs then you would be advised to monitor for symptoms daily for the subsequent 21 days - measurement of temperature at least twice daily and monitor for any of the other relevant signs/symptoms as described above.

### **Inform Public Health Authorities**

In Malta, Monkeypox infection is a notifiable disease as per Government Gazette No. 590, issued on the 23rd May 2022.

IDCU is responsible for the public health management of mpox cases and contact tracing, therefore kindly inform IDCU by sending an email to [diseasesurveillance.health@gov.mt](mailto:diseasesurveillance.health@gov.mt) with the following details:

1. Patient name and surname
2. ID number
3. Contact telephone number of patient
4. Email address
5. History of case including any epidemiological link and travel history
6. Date when test was taken
7. Location where test was taken

**Should any further information be required:** IDCU on call pagers 79004731 or 79847219 and office numbers (8-4pm) 23266109/122/307/309/155

### **Measures to be followed by cases**

When someone is diagnosed with mpox, it is important they isolate themselves until rash heals completely and follow prevention measures to avoid infecting others:

- Isolate yourself in your room and do not share household items with other people.
- Avoid contact with immunocompromised persons and other persons at risk for severe disease until the rash heals completely.
- Maintain good respiratory and hand hygiene, wear a face mask and cover rash if in contact with other people.
- Abstain from sexual activity until the rash heals completely.

### **Travel advice**

There are currently no travel restrictions in place. Travellers should be alerted about the risk of infection if visiting affected areas. They should avoid engaging with affected communities to minimise risk of getting infected must take precautions with regards to prevention of infection:



- **Avoid Contact:** Refrain from touching body fluids, skin, or engaging in physical greetings like handshakes with individuals who appear unwell. Also avoid from coming in contact with utensils, bedding and frequently touched surfaces used by someone with mpox symptoms.
- **Avoid crowded places.**
- **Hygiene Practices:** Wash hands frequently with soap and water or use hand sanitizer.
- **Animal Interaction:** Avoid eating or handling animals such as monkeys or antelopes.
- **Seek Medical Attention:** isolate and call for medical advice if you suspect you are developing mpox symptoms.

Your involvement and collaboration is crucial in ensuring that any suspected cases are immediately identified and that the necessary control measures and actions are taken to safeguard public health.

Yours sincerely,

Prof Charmaine Gauci  
Superintendent of Public Health  
Ministry for Health and Active Ageing

Further reading:

- [WHO Director-General declares mpox outbreak a public health emergency of international concern.](#) Published on 14<sup>th</sup> August 2024
- [First meeting of the International Health Regulations \(2005\) Emergency Committee regarding the upsurge of mpox 2024 \(who.int\).](#) Published on 19<sup>th</sup> August 2024
- [Risk assessment for the EU/EEA of the mpox epidemic caused by monkeypox virus clade I in affected African countries \(europa.eu\).](#) Published on 16<sup>th</sup> August 2024



## Annex I

### Distinguishing between infectious causes of vesicular lesions

Characteristic	Monkeypox	Chickenpox and herpes zoster	HSV-1 and HSV-2	Syphilis	Hand, foot and mouth disease	Molluscum contagiosum
Infectious cause	Monkeypox virus	Varicella zoster virus	Herpes simplex virus	<i>Treponema pallidum</i>	Coxsackievirus A and several other enterovirus serotypes	Poxvirus (molluscum contagiosum virus)
Subclinical shedding	No*	Yes	Yes	No	Yes	No
Incubation period, d	5-21	10-21	2-12	3-90	3-5	14-180
Systemic symptoms	Possible prodrome of fever, malaise, myalgias, headache.	Primary: a prodrome of fever, malaise, pharyngitis, anorexia. Reactivation: minority have fever, malaise, headache.	Primary: fever, malaise, myalgias, headache, tender lymphadenopathy. Reactivation: prodromal tingling or shooting pains.	Uncommon	Prodrome is uncommon	None
Lymphadenopathy	Tender, regional	Primary: generalized. Reactivation: regional.	Tender, regional	Primary: painless, regional. Secondary: generalized.	Cervical	No
Rash	Macules to papules to vesicles to pustules that umbilicate, ulcerate, crust and desquamate. Local pain and pruritis until crusting. Lesion pleomorphism.	Primary: maculopapular, vesicles, scabs appearing in crops. Lesions in all stages. Pruritic. Reactivation: erythematous papules to pustules. Can be hemorrhagic. Crust by 7-10 days.	A cluster of 2-4 mm vesicles on an erythematous base. May progress to vesicopustules and ulcers. Local pain and pruritis.	Primary: chancre. Secondary: maculopapular, may coalesce. Superficial mucosal erosions. Pustules. Condyloma lata. Rarely vesicular.	Oral: 1-5-mm erythematous vesiculoulcerative stomatitis. Exanthem: macular, maculopapular, or 1-10-mm vesicular on palms, soles, legs, and arms. Lesions may be at different stages of development. Local pruritis.	2-5-mm firm, dome-shaped flesh-coloured papules with umbilication. Rarely painful.
Location	Primary: site of inoculation. Secondary: spreads to extremities.* Can involve palms and soles.	Primary: head, scalp, trunk, extremities. Reactivation: dermatomal.	Orofacial, genitalia, rectum, hands, eyes	Primary: site of inoculation. Secondary: most commonly on palms and soles, trunk and extremities, intertriginous and mucosal areas.	Oral, palms, soles, arm, legs, buttocks	Anywhere on body, but uncommon in mouth or on palms and soles

Source: [A case of human monkeypox in Canada | CMAJ](#)





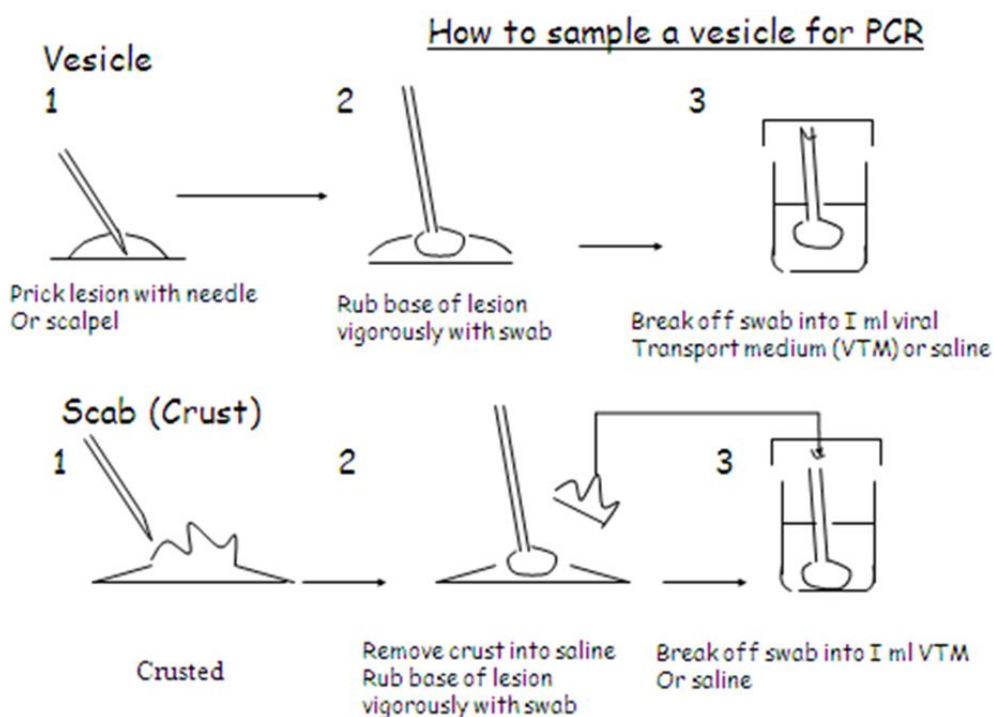
## Annex II

### Instructions on how to take a swab for MPXV testing

1. Wear the appropriate PPEs (mask/N95, visor, gloves, gown)
2. Make sure you have a viral transport medium tube (VTM) and a separate regular swab (dry flocced swab). Do not use the nasopharyngeal swab that comes with the VTM packet as that is not appropriate to take a proper sample.



3. Follow the instructions below on how to take a proper sample depending on if lesion is vesicular or crusted.



<https://www.rcpch.ac.uk/sites/default/files/2022-05/How-to-swab-a-vesicle-pustule-for-PCR-monkeypox-guideline.png>





4. Break off the swab in the VTM tube and close the lid.
5. Make sure the sample is properly labelled including all the required patient's details.
6. Complete a pink form (Mpox PCR swab – lesion) – attention molecular diagnostic lab.
7. Place the sample in a biohazard bag.
8. Ensure the sample is appropriately refrigerated and stored until delivery to MDH

**N.B. All samples are to be accompanied by a pink form and submitted to the MDH Pathology laboratory in a biohazard bag**