GOVERNMENT OF KERALA

Abstract

Health & Family Welfare Department - Management of Monkeypox Disease - State Guidelines on Monkeypox Disease - Orders issued.

HEALTH & FAMILY WELFARE (F) DEPARTMENT

G.O.(Rt)No.1947/2022/H&FWD Dated,Thiruvananthapuram, 07-08-2022

ORDER

The multi-country outbreak of Monkeypox is a Public Health Emergency of International Concern (PHEIC). In order to control the spread of Monkeypox Disease in the State, Government are pleased to issue the 'State Guidelines on Monkeypox Disease' incorporating management, contact tracing, surveillance strategies, preventive measures; annexed to this order.

(By order of the Governor)
TINKU BISWAL
PRINCIPAL SECRETARY

To:
The State Mission Director -National Health Mission, Thiruvananthapuram.
The Managing Director, Kerala Medical Services Corporation Ltd
The Director of Health Services, Thiruvananthapuram.
The Director of Medical Education, Thiruvananthapuram.
The Director, Public Health Lab
All District Collectors.
All District Surveillance Officers
All District Medical Officers (Health)
Principal Accountant General (A&E/Audit) Kerala.
Information & Public Relations (Web & New Media) Department
Stock File/ Office Copy (to file F2/188/2022-HEALTH-Part(1)

Forwarded /By order

Section Officer

Copy to:

Private Secretary to the Hon'ble Chief Minister
Private Secretary to the Hon'ble Minister (Health)
Special Secretary to Chief Secretary
PA to Principal Secretary (Health)

Annexure

STATE GUIDELINES ON MONKEYPOX DISEASE

Health & Family Welfare Department

Govt. of Kerala

Contents

Introduction

Monkeypox is a rare disease caused by infection with the monkeypox virus. It is a part of the same family of viruses as the variola virus, which causes smallpox. Monkeypox symptoms are similar to smallpox symptoms but milder, and Monkeypox is rarely fatal. Monkeypox is not related to chickenpox.

Monkeypox was first discovered in 1958 in colonies of monkeys kept for research, hence the name 'Monkeypox.'Despite being named "monkeypox," the source of the disease remains unknown. However, African rodents and non-human primates (like monkeys) might harbour the virus and infect people. The first human case of Monkeypox was reported in the Democratic Republic of the Congo (DRC) in 1970.

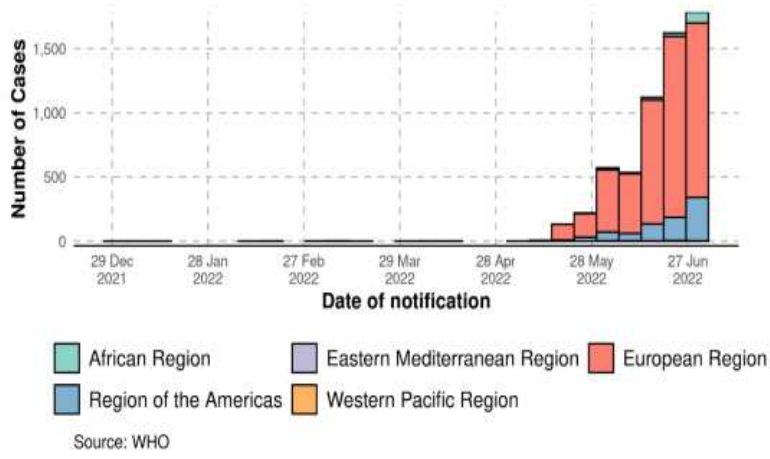
Monkeypox Virus primarily occurs in Central and West Africa. The first Monkeypox outbreak outside Africa was reported in the United States of America in 2003. It was linked to contact with infected pet prairie dogs housed with Gambian pouched rats and dormice imported into the country from Ghana. Before the 2022 outbreak, human cases of Monkeypox had been reported from several central and western African countries. Previously, almost all monkeypox cases in people outside of Africa were linked to international travel to countries where the disease commonly occurs or through imported animals. With the eradication of smallpox in 1980 and the subsequent cessation of smallpox vaccination, Monkeypox has emerged as the most important Orthopoxvirus for public health.

Global Scenario

As per reports from the World Health Organisation, the present series of outbreaks is the first time that the chains of transmission are reported in Europe without known epidemiological links to West or Central Africa. Monkeypox has been reported as endemic in several other central and western African countries such as Cameroon, Central African Republic, Cote d'Ivoire, the Democratic Republic of the Congo, Gabon, Liberia, Nigeria, Republic of the Congo, and Sierra Leone. Monkeypox has also been reported in certain non-endemic countries,e.g. USA, UK, Belgium, France, Germany, Italy, Netherlands, Portugal, Spain, Sweden, Australia, Canada, Austria, Canary Islands, Israel and Switzerland. The number of reported confirmed and probable cases has markedly increased since May 2022.

As per the Multi-country outbreak of Monkeypox bi-weekly external situation report published by WHO on July 6 2022, from Jan 1 to Jul 4 2022, 6027 laboratory-confirmed cases of Monkeypox and three deaths have been reported to WHO from 59 countries/territories/areas in five WHO Regions (African Region, Region of the Americas, Eastern Mediterranean Region, European Region, Western Pacific Region) (Table 1). No deaths have been reported outside the African region. This is the first time that local transmission of Monkeypox has been reported in newly-affected countries without epidemiological links to countries that have previously reported Monkeypox in West or Central Africa.

Figure 1. Epidemiological curve of weekly aggregated confirmed cases of monkeypox by region, from 1 January 2022 to 4 July 17:00 CEST*



*This figure shows aggregated weekly data, for epidemiological weeks ending on Sundays. Data on the current week, with incomplete data, will be presented in the next situation report.

Table 1. Number of cumulative confirmed monkeypox cases and deaths reported to WHO, by WHO Region, from 1 January 2022 to 4 July 17:00 CEST

WHO Region	Confirmed cases	Deaths
African Region	173	3
Region of the Americas	902	0
Eastern Mediterranean Region	15	0
European Region	4920	0
Western Pacific Region	17	0
Cumulative	6027	3

A total of 8238 cases of monkeypox have been identified through IHR mechanisms and official public resources up to 12 July 2022, 14:00, from 35 countries and areas throughout the

European region. Case-based data were reported for 6900 cases from 29 countries and areas to ECDC and the WHO Regional Office for Europe through The European Surveillance System (TESSy), up to 12 July 2022, 10:00.

The first imported Monkeypox case in India was reported in Kerala on July 14 2022 and second case on July 18 2022.

Epidemiology

Agent

The Monkeypox virus (MPXV) is an enveloped double-stranded DNA virus that belongs to the *Orthopoxvirus* genus of the *Poxviridae* family. It has two distinct genetic clades – the Central African (Congo Basin) clade and the West African clade. The Congo Basin clade has historically caused more severe disease and was thought more transmissible. The geographical division between the two clades has been in Cameroon - the only country where both virus clades have been found.

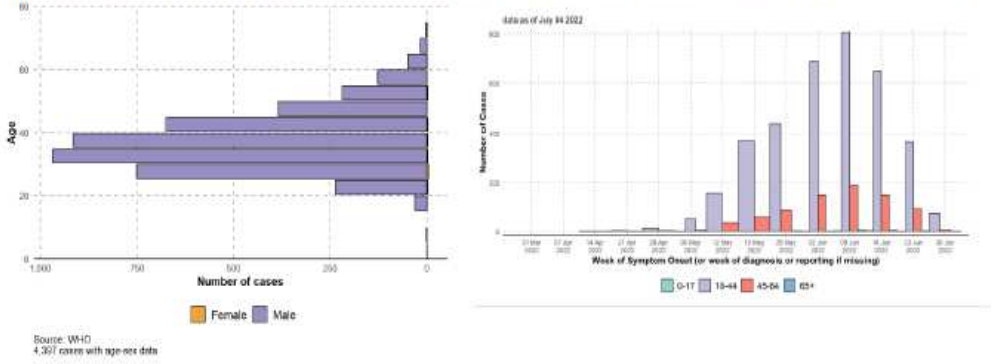
Reservoir and Host:

The natural reservoir for the disease is yet unknown. Certain rodents, including rope squirrels, tree squirrels, Gambian pouched rats, dormice and non-human primates, are naturally susceptible to the Monkeypox virus.

Case Demographics/Host characteristics

Data on sex are available for 73% (4406/6027) of cases. Of these, 99.5% (4385/4406) are males, and the median age of reported cases is 37 years (Interquartile range: 31-43). Males between 18-44 years of age continue to be disproportionately affected by this outbreak, accounting for 79% of cases. 0.1% (6/5584) of cases with age data are aged 0-17.

Figure 2a). Age-sex distribution of confirmed monkeypox cases from 1 January 2022 to 4 July 17:00 CEST (left); **2b)** Epidemic curve of confirmed monkeypox cases by age group, from 1 January 2022 to 4 July 17:00 CEST (right)



• Health care-associated infections cannot be ruled out and further investigation is ongoing to determine whether infection in health workers was due to occupational exposure. Among reported cases, 25 cases to date are reported to be health workers.

Incubation period:

The incubation period (interval from infection to onset of symptoms) of Monkeypox is usually from 6 to 13 days. However, it can range from 5 to 21 days.

Period of communicability:

1 to 2 days before the onset of rash until all the scabs fall off/get subsided.

Mode of transmission:

- Human-to-human transmission occurs primarily through large respiratory droplets, generally requiring prolonged close contact. It can also be transmitted through direct contact with body fluids or lesion materials and indirect contact with lesion materials, such as through contaminated clothing or linens of an infected person.
- Animal-to-human transmission: may occur by bite or scratch of infected animals like small mammals, including rodents (rats, squirrels) and non-human primates (monkeys, apes) or through bush meat preparation.

Case definition

Suspected case:

A person of any age having a **history of travel to affected countries within the last 21 days** presenting **with an unexplained acute rash AND** one or more of the following signs or symptoms

- Swollen lymph nodes
- Fever
- Headache
- Body aches
- profound weakness

Probable case:

A person meeting the case definition for a suspected case, clinically compatible illness and has an **epidemiological link** (face-to-face exposure, including health care workers without appropriate PPE; direct physical contact with skin or skin lesions, including sexual contact; or contact with contaminated materials such as clothing, bedding or utensils is suggestive of a strong epidemiological link).

Confirmed case:

A case which is laboratory confirmed for monkeypox virus (by detection of unique sequences of viral DNA either by **polymerase chain reaction (PCR) and/or sequencing).**

Clinical Features

Monkeypox is usually a self-limited disease with symptoms lasting from two to four weeks. Severe cases occur more commonly among children and are related to the extent of virus exposure, patient health status and the nature of complications. The extent to which asymptomatic infection occurs is unknown. The case fatality ratio of Monkeypox ranges from 0 to 11% in the general population and has been higher among young children. Recently, the case fatality ratio has been around 3-6%. Case fatality rate associated with infections due to central African clade is 10%, and that with West African clade is 1 to 3%.In the current outbreak, out of 6027 patients from Jan 1 to July 4 2022, only three have died. Genomic sequencing of viral deoxyribonucleic acid (DNA) of the monkeypox virus found in the current outbreak is ongoing, where available; data from polymerase chain reaction (PCR) assays and genome sequencing indicate that the monkeypox virus genomes detected belong to the West African clade.

Common symptoms and signs

- <u>Prodrome (0-5 days)</u>
    a. Fever
    b. Lymphadenopathy
        — Typically occurs with fever onset
        — Periauricular, axillary, cervical or inguinal
        — Unilateral or bilateral

c. Headache, muscle aches, exhaustion
d. Chills and/or sweats
e. Sore throat and cough

- Skin involvement (rash)
    a. Usually begins within 1-3 days of fever onset, lasting for around 2-4 weeks
    b. Deep-seated, well-circumscribed and often develops umbilication
    c. Lesions are often described as painful until the healing phase when they become itchy (in the crust stage)
    d. Stages of rash (slow evolution)
        — Enanthem- first lesions on tongue and mouth
        — Macules starting from the face spreading to arms, legs, palms, and soles (centrifugal distribution) within 24 hours
        — The rash goes through a macular, papular, vesicular and pustular phase. Classic lesion is vesicopustular
        — Involvement by area: face (98%), palms and soles (95%), oral mucous membranes (70%), genitalia (28%), conjunctiva (20%).Generally, skin rashes are more apparent on the limbs and face than on the trunk. Notably, the genitalia can be involved
        — By the 3rd day, lesions progress to papules
        — By the 4th to 5th day, lesions become vesicles (raised and fluid-filled).
        — By the 6th to 7th day, lesions become pustular, sharpy raised, filled with opaque fluid, firm and deep-seated.
        — May umbilicate or become confluent
        — By the end of 2nd week, they dry up and crust
        — Scabs remain for a week before falling off
        — The lesion heals with hyperpigmented atrophic scars, hypopigmented atrophic scars, patchy alopecia, hypertrophic skin scarring and contracture/deformity of facial muscles following the healing of ulcerated facial lesions
        — A notable predilection for palm and soles is characteristic of Monkeypox

e. The skin manifestations depend on vaccination status, age, nutritional status, and associated HIV status. Monkeypox mostly occurs in communities with a high prevalence of malnutrition, parasitic infections, and other significant heath-compromising conditions, which could impact the prognosis of a patient with Monkeypox.

f. The total lesion burden at the apex of the rash can be quite high (>500 lesions) or relatively slight (<25).

The clinical presentation of monkeypox cases associated with this outbreak has been atypical, as many cases in newly-affected areas are not presenting with the classically described clinical picture for Monkeypox (fever, swollen lymph nodes, followed by centrifugal rash). Among the cases who reported at least one symptom, 81% presented with systemic rash (widespread rash on the body), 50% presented with fever and 41% presented with genital rash.

Differential Diagnosis

The differential diagnoses of Monkeypox include Varicella (Chickenpox), disseminated herpes zoster, disseminated herpes simplex, measles, chancroid, secondary syphilis, hand foot mouth disease, infectious mononucleosis and molluscum contagiosum.

Complications

- Secondary infections
- Pneumonia, sepsis, encephalitis
- Corneal involvement (may lead to loss of vision)

Diagnosis

Personal Protective Equipment for handling the clinical specimens:

PPE to be donned before collecting the specimens should include- Coveralls/Gowns, N-95 mask, face shield/safety goggles, double pair of gloves. Donning & doffing of PPE should be carefully performed as per the standard procedure.Procedure for sample collection and transport of the clinical specimen are placed as **Annexure 2.** Instructions on sample packaging and transport are provided in detailed in **Annexure 3.**

Clinical samples to be collected from the cases as per the criteria mentioned below at Table 1:

<table>
<tr><th colspan="3">Traveller from outbreak /endemic region or Community Transmission</th></tr>
<tr><td>Asymptomatic</td><td colspan="2">• Observe for the development of any signs and symptoms for 21 days' post exposure
• If signs and symptoms develop, collect specimens as per the duration of illness as mentioned below</td></tr>
<tr><td rowspan="2">Symptomatic</td><td>Rash phase**</td><td>Recovery phase</td></tr>
<tr><td>• *Lesion roof- with scalpel or plastic scrapper collected in plain tube
• *Lesion fluid with intradermal syringe
• *Lesion base scrapings with sterile polyester swab collected in plain tube
• *Lesion crust in plain tube
• NPS/OPS in dry plain tube [without any bacterial medium or VTM]
• Blood collected in SSGT (4-5 ml) ◎Blood collected in EDTA (2-3ml)
• Urine in sterile urine container (3-5ml)</td><td>◎Blood collected in SSGT (4-5 ml)
Urine in sterile urine container (3-5ml)</td></tr>
</table>

*** The specimens from lesion should be collected from multiple sites**

**** A clear lesion images should be sent along with the case record form (preferably on the email ID mentioned below)**

Diagnostic modalities for Monkeypox with ICMR NIV Pune

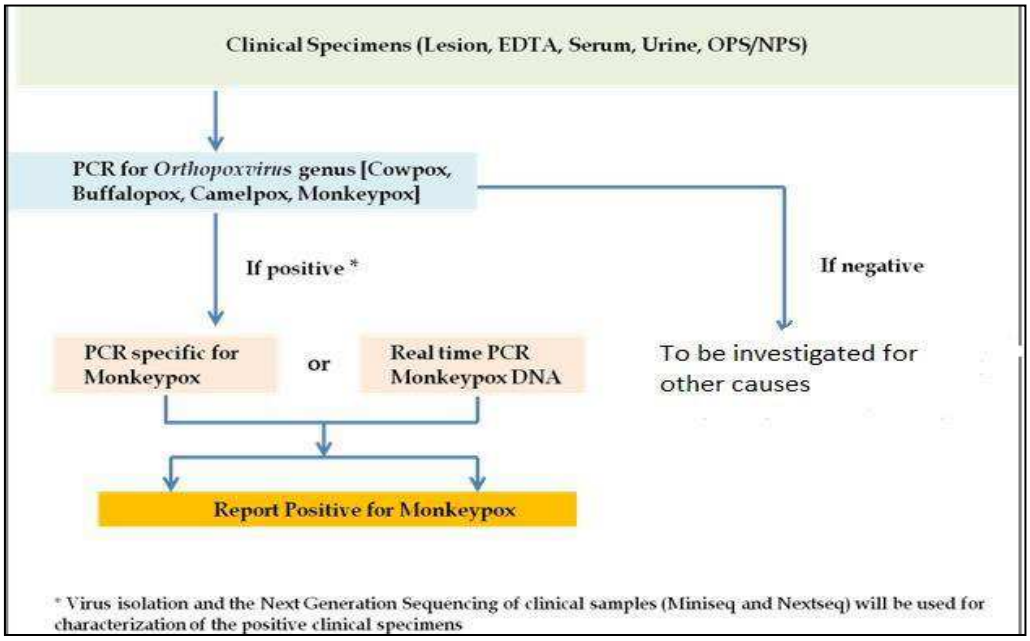
For the confirmation of Monkeypox on the suspected clinical specimens:

a) PCR for *Orthopoxvirus* genus [Cowpox, Buffalopox, Camelpox, Monkeypox] will be done

b) If specimen will show positivity for the Orthopoxvirus, it would be further confirmed by Monkeypox specific conventional PCR or real time PCR for Monkeypox DNA

c) Additionally, virus isolation and the Next Generation Sequencing of clinical samples (Miniseq and Nextseq) will be used for characterization of the positive clinical specimens

All the clinical specimens should be transported to the NIV Pune/NIV Alappuzha routed through the Integrated Disease Surveillance Programme network of the respective district/state after informing DSO.



Contact Viral Research and Diagnostic Laboratory (VRDL), Govt Medical College, Trivandrum, for information regarding sample collection, triple layer packing and transport of samples.

Contact person (VRDL): 1. Dr S Manjusree, HOD(I/c) – 9447428634
2. Dr Saritha N, Associate Professor – 9020733399
Email: clinicalmicrobiologytvm15@gmail.com
Contact State Public Health Lab, Thiruvananthapuram, to raise issues in case of any other logistic support needed.
Contact person from ICMR-National Institute of Virology, Pune, Maharashtra, India, for further queries related to the collection and transportation of the clinical specimens

Primary contact person
Dr Pragya D Yadav
Scientist – F & group leader
Maximum containment facility

ICMR-NIV, Microbial containment complex
130/1, Sus Road, Pashan, Pune -411021
Telephone: 020-26006111 (Office)
Email ID: hellopragya22@gmail.com

Secondary contact person

Dr Rima Sahay
Scinetist C
Maximum containment facility
ICMR-NIV, Microbial containment complex
130/1, Sus Road, Pashan, Pune -411021
Phone: 020-26006160 (Office)
Email Id: dr.rima.sahay@gmail.com

Management

Principles of Management

- Patient isolation
- Protection of compromised skin and mucous membranes
- Rehydration therapy and Nutritional support
- Symptom alleviation
- Monitoring and treatment of complications
- Psychological support

Patient Isolation

- Isolation of the patient in an isolation room of the hospital/ at home in a separate room with separate ventilation
- Patient to wear a triple layer mask
- Skin lesions should be covered to the best extent possible (e.g. long sleeves, long pants) to minimize risk of contact with others
  - Isolation to be continued until all lesions have resolved and scabs have completely fallen off

  and a fresh layer of skin appears

Table 2: Supportive management of Monkeypox

Component of management	Symptoms/Signs	Management
Protection of compromised skin and mucous membranes	Skin rash	• Clean with simple antiseptic • Mupironic Acid/Fucidin • Cover with light dressing if extensive lesion present • Do not touch/ scratch the lesions • In case of secondary infection relevant systematic antibiotics may be considered
	Genital ulcers	◎ Sitz bath
	Oral ulcers	◎Warm saline gargles/ oral topical anti-inflammatory gel
	Conjunctivitis	• Usually, self-limiting • Consult Ophthalmologist if symptoms persist or there are pain/ visual disturbances
Rehydration therapy and nutritional support	Dehydration can occur in association with poor appetite, nausea, vomiting and diarrhoea	• Encourage ORS or oral fluids • Intravenous fluids if indicated • Encourage nutritious and adequate diet
Symptom alleviation	Fever	• Tepid sponging • Paracetamol as required
	Itching/Pruritus	• Topical Calamine lotion • Antihistaminics
	Nausea and vomiting	◎ Consider anti-emetics
	Headache/ malaise	◎ Paracetamol and adequate hydration

Monitoring and treatment of complications

The patient should closely monitor for the appearance of any of the following symptoms during the period of isolation:

- Pain in eye or blurring of vision
- Shortness of breath, chest pain, difficulty in breathing
- Altered consciousness, seizure
- Decrease in urine output
- Poor oral intake
- Lethargy

In case any of the above symptoms appear, the patient should immediately contact DISHA for accessing the designated health facility.

Contact tracing

8.1 Definition of a contact

A contact is defined as a person who, in the period beginning with the onset of the source case's first symptoms, and ending when all scabs have fallen off, has had one or more of the following exposures with a probable or confirmed case of Monkeypox:

- direct skin-to-skin physical contact (such as touching, hugging, kissing, intimate or sexual contact• contact with contaminated materials such as clothing or bedding, including material dislodged from bedding or surfaces during handling of laundry or cleaning of contaminated rooms
  - prolonged face-to-face respiratory exposure in close proximity
  - respiratory exposure (i.e., possible inhalation of) or eye mucosal exposure to lesion material (e.g., scabs/crusts) from an infected person
  - The above also applies to health workers potentially exposed in the absence of proper use of appropriate personal protective equipment (PPE)
- face-to-face exposure (including health care workers without appropriate PPE)
- direct physical contact, including sexual contact
- contact with contaminated materials such as clothing or bedding

8.2 Contact identification

Cases can be prompted to identify contacts across the household, workplace, school/nursery, sexual contacts, healthcare, houses of worship, transportation, sports, social gatherings, and any other recalled interactions.

WHO has established three levels of risk for contact with a monkeypox case as follows:

High risk

Direct exposure of the skin or mucous membranes to skin or respiratory secretions of a person with confirmed, probable or suspected Monkeypox, their body fluids (e.g., lesion vesicular or pustular fluid) or potentially infectious material (including clothing or bedding) if not wearing appropriate PPE.

This includes:

• inhalation of droplets or dust from cleaning contaminated rooms

• mucosal exposure due to splashes from body fluids

• physical contact with someone who has Monkeypox, including direct contact during sexual activities. This includes face-to-face, skin-to-skin or mouth-to-skin contact or exposure to body fluids or contaminated materials or objects (fomites)

• normally sharing a residence (permanently or occasionally) during the presumed incubation period with a person who has been diagnosed with Monkeypox, or

• a penetrating sharps injury from a contaminated device or through contaminated gloves.

Medium risk

• no direct contact but close proximity in the same room or indoor physical space as a symptomatic monkeypox patient if not wearing appropriate PPE.

Lower or minimal risk

• contact with a person with confirmed, probable or suspected Monkeypox or an environment that may be contaminated with monkeypox virus while wearing appropriate PPE and without any known breaches of PPE or of donning and doffing procedures

• community contacts, such as being in an outdoor setting with a symptomatic case without close proximity or physical contact

Travel related contact

If a probable or confirmed case is reported in a long-distance travel conveyance (e.g., lasting

For more than 4 hours), travellers seated in the same row, two rows in front and two rows behind the sick traveller, as well as the cabin crew who served the case, can be considered medium-risk contacts if they had no physical contact with the case and were not wearing protective PPE such as face mask. Any passenger or crew team member who reports physical contact with a symptomatic case without using PPE can be considered a high-risk contact

Contact monitoring

a) Contacts should be monitored at least daily for the onset of signs/symptoms for a **period of 21 days** (as per the case definition above) from the last contact with a patient or their contaminated materials during the infectious period. In case of the occurrence of fever, clinical/lab evaluation is warranted.

b) Asymptomatic contacts should not donate blood, cells, tissue, organs or semen while they are under surveillance.

c) Pre-school children shall not be sent to daycare, nursery, or other group settings.

d) Health workers who have unprotected exposures to patients with Monkeypox or possibly contaminated materials can continue to work if asymptomatic but should undergo active surveillance for symptoms for 21 days.

Advisory for International Passengers and surveillance at Airports and Role of APHOs/PHOs is also elaborated in **Annexure 4.**

Surveillance Strategies

The proposed surveillance strategy aims to rapidly identify cases and clusters of infections and the sources of infections as soon as possible to:

a) isolate cases to prevent further transmission

b) provide optimal clinical care

c) identify and manage contacts

d) protect frontline health workers

e) effective control and preventive measures based on the identified routes of transmission.

Surveillance outline

a) Use Standard Case Definitions by all District Surveillance Units (DSUs) under Integrated Disease Surveillance Programme (IDSP) and at Points of Entry (PoEs).

b) Even one case of Monkeypox is to be considered an outbreak. A detailed investigation by the Rapid Response Teams needs to be initiated through IDSP.

c) Report any suspected case immediately to the DSU and then to the State Surveillance Units (SSU).

d) Send the samples as per the guidelines to the designated laboratories.

Salient features of surveillance:

a) Targeted surveillance for probable cases or clusters.

b) Initiate contact tracing and testing of the symptomatic persons after the detection of the probable/confirmed case.

- Contacts of probable and confirmed cases should be monitored daily for any sign or symptom for 21 days from the last contact with a case or their contaminated materials during the infectious period.
- Quarantine or exclusion from work is not necessary during the contact tracing period as long as no symptoms develop during the self-monitoring period
- During the 21 days of monitoring, encourage contacts to practice hand hygiene and respiratory etiquette rigorously, avoid contact with immunocompromised people, children or pregnant women, and avoid any sexual contact.
- Non-essential travel is discouraged during the self-monitoring period

Core Surveillance Strategy

a) Hospital-based surveillance: Health facility-based surveillance & testing

Surveillance sites - Dermatology clinics, STD clinics, Medicine, Paediatrics OPDs, Casualty etc.

- An Alert message should be pasted in front of the surveillance sites, including the suspect case definition in the local language
- All hospital staff, including security personnel, should be sensitized about the disease
- A standard operating procedure shall be in place in every hospital regarding patient flow, referral, transportation and information flow related to notifications

b) Targeted Surveillance: This can be achieved by:

i) Measles surveillance by the Immunization division

ii) Targeted intervention sites identified by NACO for MSM, the FSW population

Reporting

Reporting of cases is to be done in the format as in **Annexure 1.**

Risk Communication and Preventive Measures

Raising awareness of risk factors and educating people about the measures they can take to reduce exposure to the virus is the main prevention strategy for Monkeypox. There is a number of measures that can be taken to prevent infection with the monkeypox virus:

- Avoid contact with any materials, such as bedding that has been in contact with a sick person.
- Isolate infected patients from others.
- Practice good hand hygiene after contact with infected animals or humans. For example, washing your hands with soap and water or using an alcohol-based hand sanitizer.
- Use appropriate personal protective equipment (PPE) when caring for patients.

Reducing the risk of human-to-human transmission

Surveillance and rapid identification of new cases are critical for outbreak containment. During human monkeypox outbreaks, close contact with infected persons is the most significant risk factor for monkeypox virus infection. Health workers and household members are at a greater risk of infection. Health workers caring for patients with suspected or confirmed monkeypox virus infection, or handling specimens from them, should implement standard infection control precautions. Samples taken from people and animals with suspected monkeypox virus infection should be handled by trained staff working in suitably equipped laboratories. Patient specimens must be safely prepared for transport with triple packaging in accordance with WHO guidance for the transport of infectious substances.

Infection Prevention and Control (IPC)

A combination of standard contact and droplet precautions should be applied in all healthcare settings when a patient presents with fever and vesicular/pustular rash. In addition, because of the theoretical risk of airborne transmission of the monkeypox virus, airborne precautions should be applied as per risk assessment.

Clinical triage includes early recognition and immediate placement of the patient in a separate area from other patients (source control). All individuals, including family members, visitors and HCWs, should apply standard, contact and droplet precautions.

Patient isolation

The patient should be managed in isolation, and precautions should be taken to minimize exposure to surrounding persons, which include placing a surgical mask over the patient's nose and mouth—if tolerable to the patient—and covering any of the patient's exposed skin lesions with a sheet or gown.

Ambulance Transfer

- When a case has to be transported, the personnel accompanying the patient should wear PPE (long-sleeved gown, N95 mask, gloves, and goggles).
- Give prior information to the hospital about the admission/transfer of a potentially infectious person.
- Request patient to wear a mask (if tolerated) and advise on Respiratory Hygiene and Cough Etiquette.
- If lesions are present, cover them with long-sleeved clothing/pants or a clean sheet to minimize contact with others. In the ambulance, use disposable linen if available.
- The ambulance should be cleaned and disinfected before being used for other patients. **After wearing PPE**, surfaces (stretcher, chair, door handles etc.) should be cleaned with a freshly prepared 1% hypochlorite solution or equivalent. Carefully place reusable blankets in a bag without shaking or fluffing them, then put them into a laundry bag and send for laundering, clearly labelling it, so that person in the laundry wears appropriate PPE before handling or

  autoclaves it before opening. Follow manufacturer's instructions for cleaning/disinfecting reusable equipment in the ambulance. All masks and any waste contaminated with crusts, secretions, serum or body fluids should be disposed of as infectious waste in the yellow bag.

  If the driver's chamber is not separate in the ambulance, the driver should also use PPE.

Additional Precautions

- **PPE** (Disposable gown, gloves, N95 mask, Eye goggles) should be donned before entering the patient's room and used for all patient contact. All PPE should be disposed of prior to leaving the isolation room where the patient is admitted.
- **Hand hygiene** (following standard steps of hand hygiene) after all contact with an infected patient and/or their environment during care.
- Correct containment and disposal of contaminated waste (e.g., dressings) in accordance with **Biomedical Waste Management guidelines (2016 & subsequent amendments)** for infectious waste.
- Care when handling **soiled laundry** (e.g., bedding, towels, personal clothing) to avoid contact with lesion material.

- Soiled laundry should never be shaken or handled in a manner that may disperse infectious particles.
- Care when handling used **patient-care equipment** to prevent contamination of skin and clothing.
- Ensure that used equipment has been cleaned and reprocessed appropriately.
- Ensure provisions are in place for cleaning and disinfecting environmental surfaces in the patient care environment.
- Hospital disinfectant currently used for environmental sanitation may be used as per recommendations for concentration, contact time, and care in handling.

Risk communication

This includes providing public health advice through the channels that target audiences use on how the disease transmits, its symptoms, preventive measures and what to do in case of a suspect or confirmed infection. This should be combined with targeting community engagement to the population groups who are most at risk, working closely with health care providers, includingSTD clinics and civil society organizations.

Risk communication should be informed by insights from social listening detecting public sentiment, and should timely address possible rumours and misinformation. Health information and advice should be provided, avoiding certain stigmatizing groups such as men who have sex with men (MSM).

The key measures that can be taken to prevent infection with the monkeypox virus:

- Isolate infected patients from others who could be at risk for infection.
- Avoid contact with any materials, such as bedding, that have been in contact with a patient of Monkeypox.
- Practice good hand hygiene after contact with infected persons. For example, washing your hands with soap and water or using an alcohol-based hand sanitizer.
- Use masks and gloves when caring for patients.

- **References**

1. Monkeypox situation update, as of Jul 14 2022 [Internet]. European Centre for Disease Prevention and Control. [cited 2022 Jul 17]. Available from: https://www.ecdc.europa.eu/en/monkeypox-multi-country-outbreak/situation-update-eueea-western-balkans-turkey

2. Guidelines for Management of Monkeypox Disease **https://main.mohfw.gov.in/sites/default/files/Guidelines%20for%20Management%20of%20Monkeypox%20Disease.pdf**

3. Surveillance, case investigation and contact tracing for monkeypox: Interim guidance by WHO June 24, 2022

4. Joint ECDC-WHO Regional Office for Europe Monkeypox Surveillance B https://cdn.who.int/media/docs/librariesprovider2/monkeypox/monkeypox_euro_ecdc_final_jointreport_2022-07-13.pdf?sfvrsn=1a2ea5d2_3&download=true

ANNEXURE-1: Case Reporting Format

National Insitute of Virology, Pune

Case Information form

Field ID | Date of Collection of Specimen | Collected by

Aadhar Card Number

Patient Information :

Name of the patient | Occupation

Age in completed years | Gender | Pregnant | If Pregnant (Mention weeks of pregnancy)

Detailed Address:

Locality | Village | Taluka | City

District | State | Pincode | Contact Number

Clinical History :

Name of Hospital/ Clinic | OPD/IPD Number

Post Illness day | Date of Hospitalization

Date of onset of symptoms

☐ Fever ☐ Chills/Rigors Grade of fever Type of fever

☐ Myalgia ☐ Fatigue ☐ Headache ☐ Malaise ☐ Bodyache ☐ Lymphadenopathy Specify

☐ Rash ☐ Macular ☐ Papular ☐ Maculo-papular ☐ Vesicular ☐ Pustular ☐ Pinpoint ☐ Ischar ☐ Bullae

☐ Scabs/Crusts ☐ Others Specify

☐ Respiratory symptoms ☐ Cold ☐ Cough (dry) ☐ Cough (Expectorant) ☐ Nasal Discharge ☐ Breathlessness

☐ Hemoptysis ☐ Chest pain ☐ Ear Discharge ☐ Sore throat Others (Specify)

☐ Eye problems ☐ Redness ☐ Pain ☐ Watering ☐ Stickiness Others (Specify)

☐ Oro-GI symtoms ☐ Nausea ☐ Vomiting ☐ Diarrhoea ☐ Abdominal pain ☐ Loss of appetite

☐ Oral ulcers ☐ Koplik spot ☐ Swollen/tender salivary glands ☐ Others Specify

☐ CNS symptoms ☐ Altered Sensorium ☐ Convulsions ☐ Irritability ☐ Disorientation ☐ Neck pain/Stifness

Others (Specify)

Complications: ☐ Pneumonia ☐ ARDS On Mechanical Ventilation ☐ Coagulopathy ☐ Acute Renal Failure

☐ Encephalitis/Meningitis ☐ Sepsis ☐ Severe Dehydration ☐ Uveitis/Iritis ☐ Orchitis ☐ Arthritis

☐ Reye's Syndrome ☐ Myocarditis ☐ Hepatitis ☐ Hearing loss ☐ Otitis Media ☐ Acute Malnutrition

☐ Others Specify

Past History: ☐ Diabetes ☐ Hypertension ☐ COPD ☐ Asthama ☐ Pulmonary TB ☐ Heart Disease ☐ Liver disease

☐ Other Immunocompromised conditions if yes, specify ☐ Smoking

☐ Tobacco cheweing ☐ Alchoholism ☐ Others Specify

Treatment History : ☐ Amoxicillin ☐ Septran ☐ Amoxiclav ☐ Azithromycin ☐ Erythromycin ☐ Levofloxacin

☐ Acyclovir ☐ Vit- A syrup Units ☐ Others Specify

Epidemiological History:

☐ Contact with case of fever with rash in last 10 days Specify

☐ Contact with known case of chicken pox or zooster in last 10 days Specify

☐ Similar history in family members/neighbours/friends Specify

☐ Attending any mass gathering in last 10 days Specify

☐ Past Vaccination History (VSV/Measles/Mumps/Rubella) Specify

☐ Others Specify

Time of Specimens Collected:

☐ Throat Swab ☐ Nasophyrangeal Aspirate ☐ Bronchoalveolar Lavage ☐ Swabs of Macuopapular lesions

☐ Swabs of Vesicular lesions ☐ Swabs from pustule ☐ Crusts/Scabs ☐ Serum ☐ CSF ☐ Urine ☐ Others Specify

Hematological Investigations:

Hb (gm%) TLC/WBC Neutrophils Lymphocytes Eosinophils Platelets

Blood Urea Serum Creatinine Serum Albumin ALT AST

Serum Bilirubin (Total) Bilirubin (Direct) Bilirubin (Indirect) PT INR

Urine Bile Salt/ Bile Pigment Proteinuria Others (Specify)

X-Ray chest

Laboratory Investigations:

Real Time PCR Conventional PCR IgM Elisa IgG Elisa

Virus Isolation

Outcome History:

☐ Cured and Discharged Date of Discharge ☐ Died Date of Death

Name of treating physician Contact Number

Laboratory Diagnosis

Provisional Diagnosis

Final Diagnosis

ANNEXURE 2- Procedures for the clinical specimen collection:

- **Nasopharyngeal and Oropharyngeal swabs in screw-capped plain tube:**

- Explain the procedure to the patient
- Remove the polystyrene swab. Don't let anything touch the sterile swab on the end of the stick
- Ask the patient to open their mouth and stick their tongue out
- Use a tongue spatula to press the tongue downward to the floor of the mouth.
- Use a sterile polystyrene swab to swab both of the tonsillar arches and the posterior nasopharynx without touching the sides of the mouth.
- Reach behind the uvula and swab: a. tonsillar fauces, b. the posterior pharynx, and c. any ulceration, exudate, lesion, or area of inflammation.
- Don't let the sterile swab touch the patient's tongue, gums, or teeth as you gently remove it from his/her mouth
- Place the swab into the screw-capped plain plastic tube [without any medium or VTM]
- Similarly, tilt the patient's head back 70 degrees. Gently and slowly insert a polystyrene swab with a flexible shaft through the nostril parallel to the palate until resistance is encountered.
- The distance is equivalent to that from the nostril to the ear of the patient, indicating contact with the nasopharynx
- Gently rub and roll the swab, leaving it in place for several seconds to absorb secretions. If a deviated septum or blockage creates difficulty in obtaining the specimen from one nostril, use the same swab to obtain the specimen from the other nostril
- Slowly remove the swab while rotating it. Specimens can be collected from both nostrils
- Place the swab into the same screw-capped plain plastic tube [without any medium or VTM] in which the OPS swab was kept
- Break the excess stick and recap the tube tightly. ⊙Keep the tube in an upright position in the stand.
- Surface decontaminate the tube using 2% Lysol or 0.5-1% Sodium hypochlorite wipes

- **Venous Blood Collection in SSGT and EDTA tube:**
  - Explain the procedure to the patient

- Check the patient's fore-arm/median cubital fossa for a prominent vein of good size. Use the median cubital vein wherever feasible.
- Apply the tourniquet 4-5 fingerbreadths above the site of venipuncture.
- Perform hand hygiene by using an alcohol-based hand rub on the outer pair of gloves.
- Disinfect the skin site using a wipe containing 70% alcohol, in a circular motion, from the centre to the periphery. Allow the skin to dry.
- Do not re-touch the site of puncture again. In case of accidental touch, repeat the skin disinfection as above.
- Anchor the vein by holding your thumb below the puncture site.
- Ask the patient to make a fist so as to make the veins prominent.
- Insert the needle (vacutainer or syringe needle) into the vein, bevel side up, at an angle of about 30^0 and advance the needle into the vein.
- Collect 5 mL of blood (into the syringe or into tubes) and aliquot 2 ml in EDTA (purple top) and 3 ml in SSGT (Yellow top) for serum separation.
- Release the tourniquet.
- Withdraw the needle gently and apply a piece of sterile gauze to the puncture site
- Ask the patient to gently press down on the gauze on the puncture site, keeping the arm folded
- If a syringe and needle were used for collection, transfer the blood inside the tube by piercing the stopper of the tubes placed firmly on a rack.
- Invert EDTA tubes gently 4-5 times to ensure proper mixing of the additives ⊙Keep the tubes in an upright position in the stand.
- Discard the syringe and needle into the sharp's container
- Surface decontaminate the SSGT and the EDTA tube using 2% Lysol or 0.5-1% Sodium hypochlorite wipes

- **Urine sample collection in the screw-capped sterile urine container:**
  - Explain the procedure to the patient
  - Provide privacy to the patient
  - First, ask the patient to wipe/clean the genitals

- Ask the patient to urinate a small amount into the toilet bowl and then stop the urine flow.
- Then collect a sample of urine into the clean or sterile container provided
- Ask the patient to collect about 3 to 5 mL of midstream urine sample into the collection tube provided, taking care not to contaminate the outside of the container
- Ask the patient to finish urinating into the toilet bowl
- Close the lid carefully and keep the container standing position
- Surface decontaminate the SSGT and the EDTA tube using 2% Lysol or 0.5-1% Sodium hypochlorite wipes

- **Lesion roof, base scrapping, fluid and crust/scab collection [collect from multiple sites]:**
  - Explain the procedure to the patient
  - Sanitize the skin covered with lesion with 80% alcohol wipes to start the collection
  - Remove the lesion roof using a sterile scalpel or plastic scrapper ◎Place the roof in the screw cap plain tube.
  - Similarly, use a 1ml intradermal syringe to collect the pustule/ vesicular fluids from multiple lesions and collect in a fresh screw cap plain tube
  - Use the polystyrene swab to collect the scrapings from the base of the lesions by gentle scraping and put it in a fresh screw cap plain tube
  - The scab/crust, if formed using a polystyrene swab, should also be collected in a fresh screw cap plain tube

Procedures for the transport of the clinical specimens:

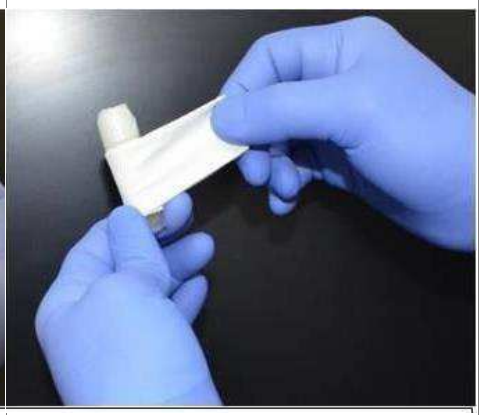
- Keep the samples immediately in +4 degrees Celsius as soon as they are collected
- After collection of samples, appropriately labelled sample tubes need to be sealed with parafilm
- Centrifuge the serum tube before shipment
- Tubes need to be wrapped with the absorbent tissue paper/cotton and placed in Ziplock bags/Secondary receptacles
- Samples should be transported in dry ice as per the instruction provided in Annexure3 (adapted from the WHO Guidance on regulations for the transport of

infectious substances 2021-2022) along with the case record form provided with this document.

ANNEXURE 3: INSTRUCTIONS ON SAMPLE PACKAGING AND TRANSPORT

This is just a visual representation. Use appropriate PPE and collection tubes as described earlier in this document

STEP 1: ARRANGING THE SAMPLE VIALS

A	*B*	*C*
		
*Wear a full set of appropriate Personal Protective Equipment and identify the labelled sample tubes	*Seal the neck of the sample vials using parafilm to prevent leakage during transit.	Cover the sample vials using absorbent material to contain leakage in case of breakage.

STEP 2: ARRANGING THE PRIMARY VIALS WITHIN A STURDY, LEAK-PROOF

SECONDARY CONTAINER

A 	***B*** 
<u>Option 1</u>: Using a cryo-box as a secondary container. (Seal the lid of the box after arranging the samples, using cello.)	**<u>Option 2</u>: Using a 50-mL centrifuge tube as a secondary container. (Seal the neck of the tube using a cello.)**
C  **Placing the centrifuge tube inside a zip-lock pouch**	***D***  **Placing the zip-lock pouch inside a sturdy plastic container. (Seal the neck of the container using cello.)**

[Note: Sample vials can also be placed inside a zip-lock pouch, covered in absorbent material and secured by heat-sealing or rubber bands. Then, the zip-lock pouch should be placed inside another plastic pouch and secured.]

STEP 3: ARRANGING THE OUTER CONTAINER

A	*B*	*C*
		
Option 1: **Using a thermocol box as an outer container and placing the secondary container within it, surrounded by hard-frozen gel packs**	**Option 2:** **Using a hard-board box as an outer container and placing the secondary container and the gel packs**	**Placing the completed Case Report Form/Request Form inside a leak-proof, zip-lock pouch**

D	*E*	
		**<u>Documents to accompany:</u>** **Packing list/Proforma Invoice** **Air waybill**(for air transport) (to be prepared by sender or shipper) **Value equivalence document** (for road/rail/sea transport)

Securing the zip-lock pouch with the Case Report Form on the outer container	**Attaching the labels:** **Sender's Address and contact number;** **Consignee's Address and contact number;** **Emergency Contact's name and number**	

**Filled sample referral form to be kept in a plastic cover should be taped to the outer surface of the thermocol box while transporting the sample.

ANNEXURE 4 -Advisory for International passengers

Travellers should AVOID close contact with sick people, including those with skin lesions or genital lesions.

Contact with dead or live wild animals such as small mammals, including rodents (rats, squirrels) and non-human primates (monkeys, apes).

Eating or preparing meat from wild game (bushmeat) or using products derived from wild animals from Africa (creams, lotions, powders).

Contact with contaminated materials used by sick people (such as clothing, bedding, or materials used in healthcare settings) or that came into contact with infected animals.

Consult the nearest health facility if you develop symptoms suggestive of Monkeypox like fever with rash &

You were in an area where Monkeypox has been reported to have had contact with a person who might have had Monkeypox.

Role of APHOs/PHOs:

Remain in a state of alert, particularly for the passengers arriving from countries reporting monkeypox outbreaks,

Familiarize with clinical presentation of Monkeypox,

Undertake strict thermal screening and history of travel to affected countries in the last 21 days,

Establish/strengthen referral arrangements from airport/port to identified link hospital.

Also, familiarize Bureau of Immigration personnel, airline personnel and any State health personnel deployed with them about the disease,

Inform concerned airlines about the detection of a suspect case for the purpose of disinfection procedure to be followed as per standard guidelines.

ANNEXURE 5 :**How can I protect myself and others against monkeypox?**

Infected people should remain isolated until scabs fall off and should especially avoid close contact with immunosuppressed persons and pets. Abstaining from sexual activity and close physical contact is also advised until the rash heals. Cases should remain in their own room when at home, and use designated household items (clothes, bed linen, towels, eating utensils, plates, glasses), which should not be shared with other members of the household.

Close contacts of monkeypox cases should self-monitor for the development of symptoms for 21 days after the last exposure and should avoid close physical contact with young children, pregnant women and immunocompromised persons until MPX is excluded.

Caregivers and relatives should avoid touching skin lesions with their bare hands, wear disposable gloves, and observe strict hand hygiene.