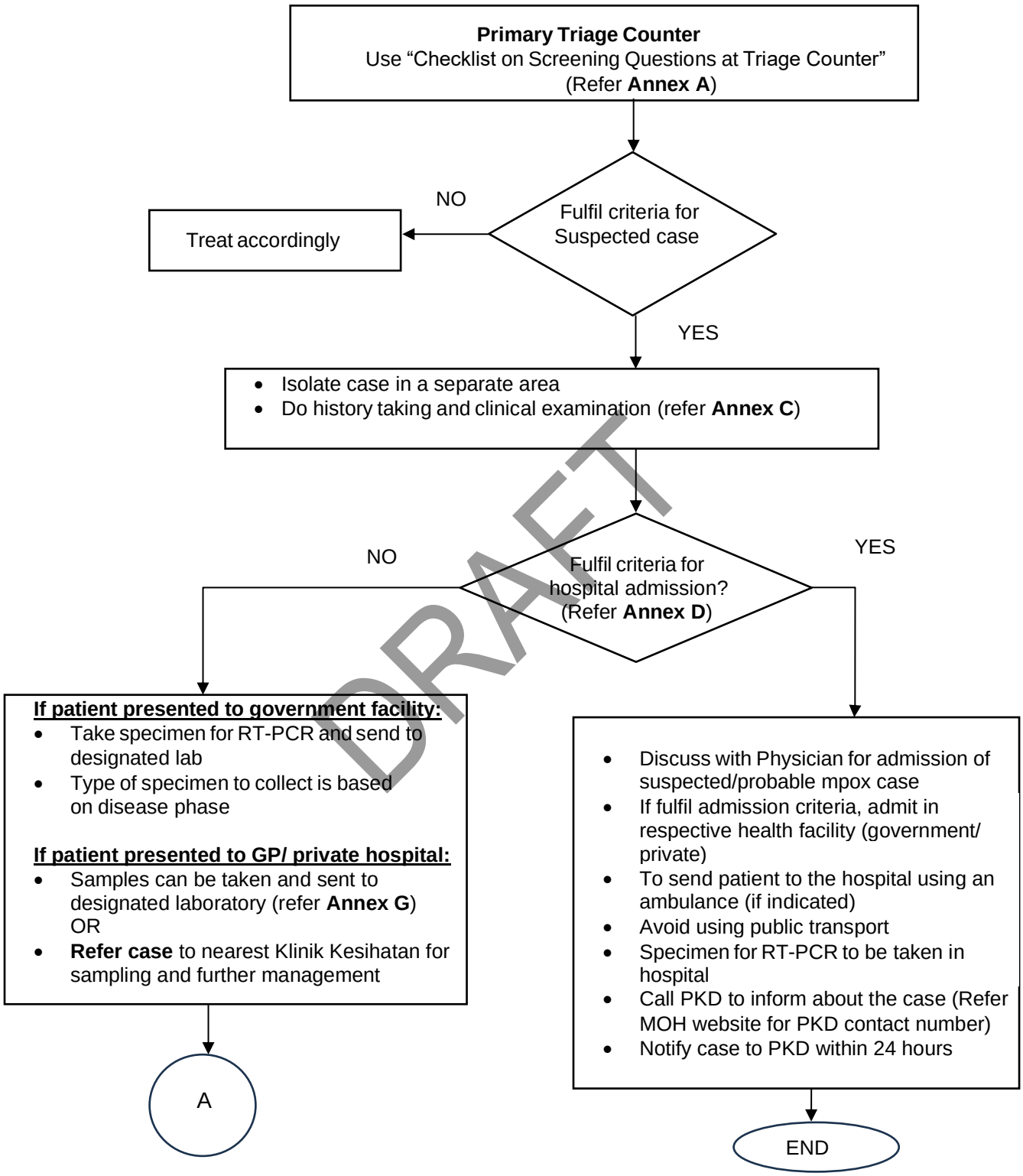
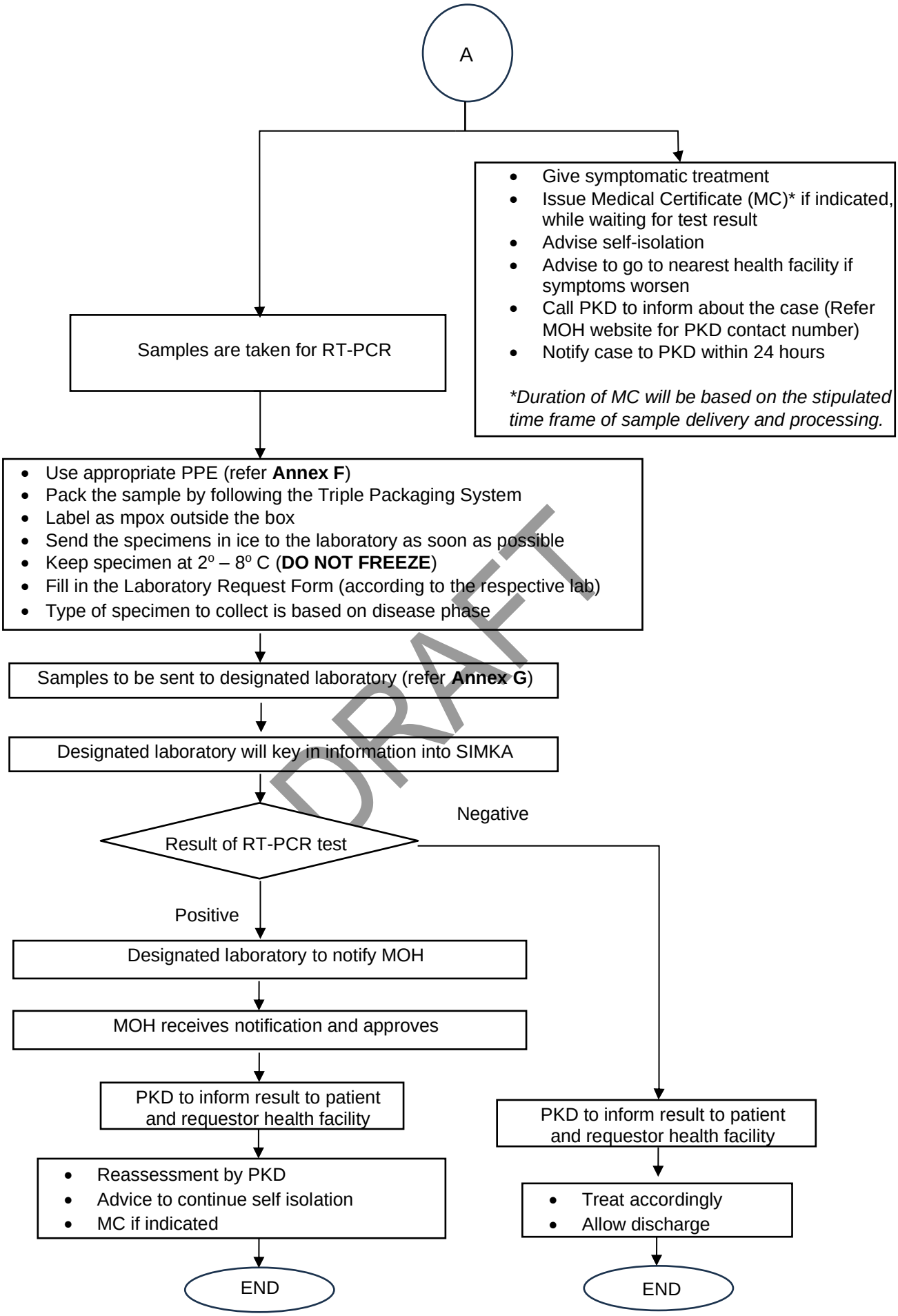
MANAGEMENT OF OUTPATIENT SUSPECTED MPOX CASE IN HEALTHCARE FACILITIES

Ministry of Health Malaysia

21 September 2024

Figure 1: Flowchart for Patient Management of Suspected mpox Case in Outpatient Setting




A
Give symptomatic treatment
Issue Medical Certificate (MC)* if indicated, while waiting for test result
Advise self-isolation
Advise to go to nearest health facility if symptoms worsen
Call PKD to inform about the case (Refer MOH website for PKD contact number)
Notify case to PKD within 24 hours
*Duration of MC will be based on the stipulated time frame of sample delivery and processing.
Samples are taken for RT-PCR
Use appropriate PPE (refer Annex F)
Pack the sample by following the Triple Packaging System
Label as mpox outside the box
Send the specimens in ice to the laboratory as soon as possible
Keep specimen at 2º – 8º C (DO NOT FREEZE)
Fill in the Laboratory Request Form (according to the respective lab)
Type of specimen to collect is based on disease phase
Samples to be sent to designated laboratory (refer Annex G)
Designated laboratory will key in information into SIMKA
Result of RT-PCR test
Negative
Positive
Designated laboratory to notify MOH
MOH receives notification and approves
PKD to inform result to patient and requestor health facility
Reassessment by PKD
Advice to continue self isolation
MC if indicated
END
PKD to inform result to patient and requestor health facility
Treat accordingly
Allow discharge
END

Annex A

Checklist on Screening Questions at Triage Counter

Screening questions for potential mpox cases are based on mpox case definition. Please refer to Guidelines mpox Management in Malaysia for full case definitions.

No	Symptoms	Tick
1.	Contact of a probable or confirmed mpox case in the last 21 days before onset of fever	
	OR	
2.	Contact of a probable or confirmed mpox case in the last 21 days before onset of unexplained acute skin rash, mucosal lesion or lymphadenopathy	
	OR	
3.	Presented with unexplained acute skin rash, mucosal lesion or lymphadenopathy	
	OR	
4.	History of travel to endemic or affected countries[1] in the last 21 days before onset of fever, unexplained acute skin rash, mucosal lesion or lymphadenopathy	

1 Affected countries may be accessed at: *https://worldhealthorg.shinyapps.io/mpx_global/#3_Global_situation_update* under 3. Global situation update

Annex B

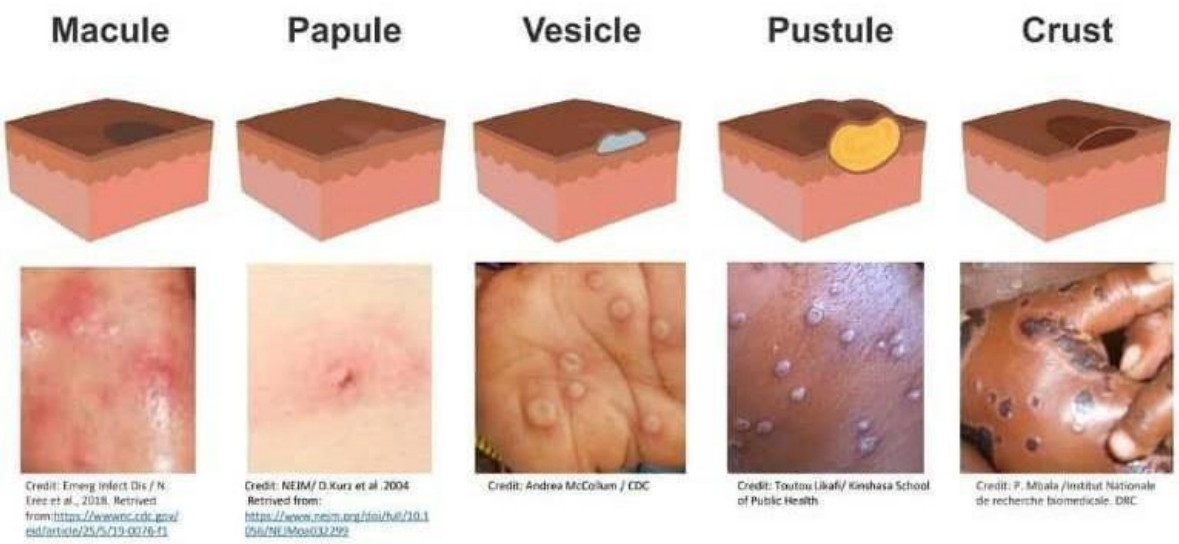
Differentiating mpox from other Diagnosis

	mpox	**Chicken pox**	**HFMD**	**Measles**
Incubation period	5-21 days	10-21 days	3-6 days	10-15 days
Prodromal period	1-4 days	0-2 days	2-3 days	2-4 days
Rash period	14-28 days	10-21 days	5-10 days	4-6 days
Rash appearance	Rash often in **ONE** stage of development Firm/rubbery and deep vesicles, well circumscribed and umbilicated	Rash often in multiple stages of development Superficial vesicles surrounded by irregular erythema (dew drop on rose petal)	Rash often in multiple stages of development Small vesicles (2-8mm), elongated on erythematous base	Rash often in multiple stages of development Maculopapular rash (non-vesicular)
Rash distribution	Centrifugal: Denser on **face** and extremities, often present on **genitals**	Centripetal: Denser on trunk	Hands, soles, buttocks and genitals	Face, neck, trunk and extremities
Palmoplantar involvement	Yes	Rare	Yes	Rare
Rash progression	Slow	Rapid	Rapid	Rapid
Lymphadenopathy	Yes	No	No	No
Classic feature	Lymph node swelling	Itchy rash	Oral ulcers	Koplik spots

Reference: Ng YY, Azidah AK . Monkeypox: A review of data essential in primary care. Malays Fam Physician. 2023;18:9. https://doi.org/10.51866/rv.213

mpox

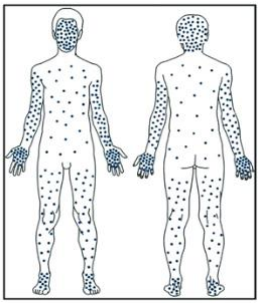
mpox rash progresses from macule-papule-vesicle-pustule-crust but all rash are often in ONE stage of development.



Examples of mpox rash:

mpox rash in vesicular stage.

A common finding in mpox: Umbilicated papule or pustule.



Centrifugal distribution: Denser on face and extremities

Umbilicated papules and pustules over anogenital region.

Chicken pox

Rash in multiple stages of development. Papules, vesicles, pustules and crust are often present together.

'Dew drop on a rose petal'

Centripetal distribution: Denser on trunk

Hand Foot and Mouth Disease

Elongated vesicles surrounded by an erythematous halo. Long axis of the lesion is oriented along the skin lines.

Symmetrical involvement of hands, soles, buttocks, genitalia, in and around mouth.

Measles

Maculopapular rash. Starts from face, spreads downward to the neck, trunk, arms, legs and feet.

Koplik spots, present during the prodromal stage of measles.

Annex C

mpox Clerking Guide

PARTICULAR OF PATIENT					
Name of clinic				Clerking date	
Name				I/C No.	
Age		Sex		Tel No.	
Occupation		Address			

TRAVEL HISTORY IN THE LAST 21 DAYS		
Country	Departure Date	Return Date

CONTACT HISTORY (PLEASE TICK √)					
No contact history		Household		Close/sexual	

CLINICAL ONSET & SYMPTOMS (PLEASE TICK √)							
Date of onset of first symptom				Date of last exposure to contact			
Fever		Rash		Site(s) of rash			
Headache		Sore throat		Skin redness/pain		Lymphadenopathy	
Lethargy		Backache		Myalgia		Nausea/Vomiting	
Proctitis		SOB		Nasal congestion/ cough		Reduced vision	
Others (Please specify):							

PHYSICAL EXAMINATION							
Temperature		Blood pressure		Pulse Rate		Respiratory Rate	
SPO2		Pain score		Hydration		Throat	
Lymph nodes		Lungs		Genitalia			
Description of skin rash							
Others (ie Visual acuity)							

RISK FACTORS (PLEASE TICK √)							
HIV		Diabetes		Heart Disease		CKD	
Liver disease		Kidney Disease		Malignancy		Pregnancy (POA)	
Extreme age (< 2 y/o or >60 y/o)		Immunosuppressed		Bed bound		Home isolation not feasible: (Please specify reason)	
Others:							

TYPE OF SPECIMEN COLLECTED

CASE CLASSIFICATION	□ Suspected case □ Probable case □ Confirmed case □ Close contact surveillance

MANAGEMENT (PLEASE TICK √)			
	Stable, home isolation		Admission

Plan of Management and Prescription	Clerked by (Name, stamp & contact number)

Annex D

Admission Criteria

1.1 Patients who are clinically ill OR have the following symptoms:

a) Persistent fever beyond day 5
b) Exertional dyspnea, SpO2 < 95% (at rest or at exertion)
c) Dehydration
d) Secondary infection of skin lesions
e) Reduced level of consciousness
f) Blurring of vision

1.2 Patients with uncontrolled medical conditions, immunocompromised status, pregnant women,extremes of age (< 2 years or > 60 years old).

1.3 Patients who do not fulfil the above criteria but are not suitable for home surveillance, to consider admission.

Annex E

Checklist for Suitability of Patients to Undergo Home Isolation:

No.	Criteria
1.	Has a separate bedroom with en-suite bathroom (preferable); if not, common bathroom with frequent disinfection.
2.	Has access to food and other necessities.
3	Has access to face mask, glove and disinfectant at home.
4	Able to seek medical care if necessary and return with own private transport.
5	Able to adhere to instruction to follow home surveillance order.
6.	Able to stay away (at least 2 meters apart) from the high-risk household members (e.g. individual > 60 years old, young children <2 years, pregnant women, people who are immunocompromised or who have chronic lung, kidney, heart disease)

**The checklist is provided as a guide, hence the assessment of patient suitability for home surveillance is tailored from one patient to another*

Annex F

Personal protective equipment (PPE)

PPE use should be guided by risk assessment concerning anticipated contact with blood, body fluids, secretions and non-intact skin for routine patient care. PPE should be donned before entering the patient's room and used for all patients contact. All PPEs should be disposed of prior to leaving the isolation room where the patient is admitted.

a. HCW managing a suspect / confirmed case of mpox

- Facemask / N95 (or comparable) filtering disposable respirator
- Isolation gown
- Double Gloves
- Eye protection (goggles or face shield)
- N95 must be used if anticipating aerosol generating procedures or when varicella infection is suspected or not excluded.

b. Cleaners

- N95 mask
- Eye protection (goggles or face shield)
- Double Gloves
- Isolation gown
- Dedicated boots or footwear that can be disinfected.*
  * Disposable shoe covers are not recommended

Annex G

Specimen Collection, Handling and Transportation

1.1 Collection of Specimen

i. The type of specimen to be collected depends on the disease phase and clinical signs.

ii. Health care personnel involved in specimen collection for mpox virus (**MPXV)** must wear recommended personal protective equipment (PPE) as per infection control guidelines *(please refer to Chapter–3: Policies and Procedures on Infection Prevention and Control, 2019 KKM). (Available at https://www.moh.gov.my/moh/resources/Polisi/infection_control.pdf)*

iii. Recommended specimens' type is from skin lesions:

a) lesion fluid swab with viral transport media (VTM) (preferred) or without VTM in sterile container.

b) lesion scab, or crusts in sterile container.

iv. In the absence of skin lesions, tonsillar and nasopharyngeal swab can be collected however these specimens provide less sensitive results. A negative result should be interpreted with caution.

v. Blood specimen are generally not recommended for diagnosis of acute illness.

vi. Please refer Table 1: Guidance on types of specimens to be collected for MPXV and Table 2: Types of specimens and collection methods.

vii. All specimens must be kept at 2^0C to 8^0C after collection.

Table 1: Guidance on types of specimens to be collected for MPXV

Case Category	Disease Phase	Signs / Symptoms	Specimens to Collect	Remark
Suspected or probable case	Rash	Vesicles or Pustules	Lesion fluid	Swab two separate lesions using different swabs and place both swabs into the same vial containing VTM (preferred) OR sterile container
		Scabs or Crusts	Lesion scab or crust	Two specimens taken from different locations and put into the same sterile container
Contact	Prodrome	Early stage of fever	Tonsillar swab	Each tonsillar swab and NPS should be collected into separate VTM tubes
			Nasopharyngeal swab (NPS)	

Table 2: Types of samples and collection methods

No.	Type of sample		
1.	**Lesion fluid swab**		
	Materials needed	**Procedure**	**Test Method**
	1 .Sterile, synthetic or dacron swabs. 2 swabs in a single tube 2. Viral transport media (VTM) (preferred) 3. Sterile container. ***Do not use cotton Swabs**	1. Do not clean the lesion with ethanol or any other disinfectant prior to swabbing. 2. Hold the swab with a firm grasp. Avoid touching the swab shaft at least an inch before the tip if collecting a dry swab and the length of the swab shaft that will be submerged in liquid if using a swab in viral transport media. 3. Swipe the swab back and forth on the lesion surface at least 2 to 3 times then rotate and repeat on the other side of the swab at least 2 to 3 times. If material is visible on the swab surface (such as skin material or from lesion fluid that is leaking from the lesion), this is indicative of an adequate collection. **Note:** Fluid may not always be visible on swabs. 4. Place the swab in viral transport media (preferred) or without VTM in sterile container.	Real-time PCR

No.	Type of sample		
2.	**Scab or crust**		
	Materials needed	**Procedure**	**Test Method**
	1. Forceps or other blunt-tipped sterile instrument. 2. Sterile container	1. Do not clean the lesion with ethanol or any other disinfectant prior to the procedure. Use forceps or other blunt-tipped sterile instrument to remove all or a piece of the crust at least 4mm x 4mm. 2. Place the crust into a dry, sterile container. 3. Cover the lesion with a band aid.	Real-time PCR
3.	**Tonsillar swab**		
	Materials needed	**Procedure**	**Test Method**
	1. Sterile screw capped container with viral transport media 2. Sterile dry polyester or Dacron swabs ***Do not use cotton swab**	1. Swab or brush posterior tonsils with a sterile dry polyester or Dacron swab. 2. Break off end of applicator into a sterile container with viral transport media.	Real-time PCR
4.	**Nasopharyngeal swab**		
	Materials needed	**Procedure**	**Test Method**
	1. Sterile dry polyester or Dacron swabs – with viral transport media ***Do not use cotton swab**	1. Swab the nasopharynx with a sterile dry polyester or Dacron swab. 2. Break off end of applicator into a sterile container with viral transport media.	Real-time PCR

3.1 Specimen Transportation

i. Specimens shall be maintained and transported at 2°C to 8°C (ice packs) after collection. If the specimen cannot be transported within 48 hours, it should be stored at -70ºC before being transport to the laboratory.
ii. The Laboratory Request Form must be sent together with the specimen/s, and must be attached at the outside of the triple packaging system. Label the outside sample box with ‘mpox’.
iii. Each specimen should be labeled with the patient’s name, identification number, collection date, type of specimen, and body location for lesion specimens.
iv. Place each specimens into a separate ziplock biohazard plastic bag (secondary packaging/receptacle).
v. Specimens should be packed and transported in accordance with Guidelines for the safe transport of clinical specimens and infectious substances in Malaysia 2023 (Figure 1) or United Nations Recommendations on the Transport of Dangerous Goods rules and regulations for Category B biological substances (UN 3373).
vi. Specimen shall be packed by following the Triple Packaging System which consists of a primary packaging wrapped with absorbent material to absorb any leakage of liquid specimen, in a secondary packaging (watertight, leak-proof eg ziplock biohazard plastic bag or screw capped container/canister), and place in a rigid outer box (eg Styrofoam box) with sufficient ice packs/gels to maintain the temperature during transportation.
vii. All specimen must be sent to designated laboratories as soon as possible.

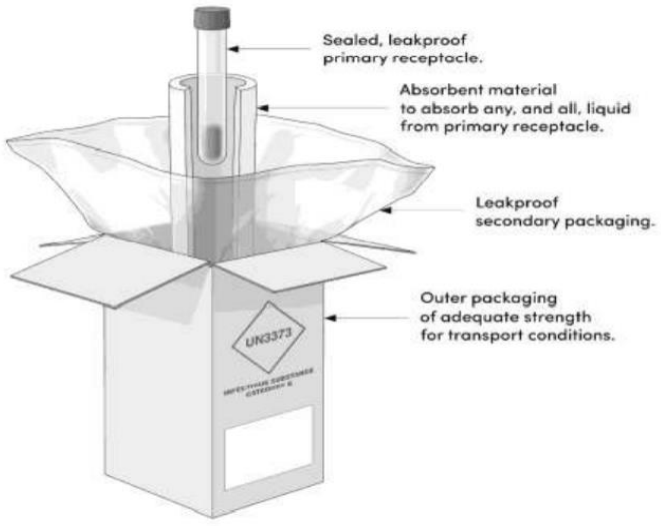


Figure 1 : Example of triple packaging materials that may be used to comply with P650 for Category B infectious substances

3.2 Request Form

In order to interpret test results, it is critical that patient information is provided with the specimens, including:

i. date of onset of fever
ii. date of onset of rash
iii. other clinical signs
iv. date of specimen collection
v. current status of the individual (stage of rash)
vi. nationality/country
vii. travel history to mpox affected country
viii. contact history with mpox patient
ix. specimen type
x. date specimen sent to laboratory
xi. requestor details i.e., name, contact number, email address

Use Specific Laboratory request form to be used for designated laboratories:

i. MKAK - *Borang Permohonan Ujian Makmal (Spesimen Klinikal)* with coding MKAK- BPU-U01/Rev2018 – Download from NPHL website https://mkak.moh.gov.my/index.php/muat-turun/borang-dokumen/bahagian-penyakit/13-borang-permohonan-ujian

ii. IMR – *Borang permohonan ujian Virology test request form* Download from IMR website *https://imr.nih.gov.my/en/services-menu/menu-specific-request-form*
or PER-PAT 301.

iii. Hospital – *Borang PER-PAT 301*

Please call officer on duty for any queries.

LIST OF LABORATORIES THAT CAN PERFORM THE MPOX PCR TEST

No.	NAME OF LABORATORY	REQUESTOR FROM:
1.	National Public Health Laboratory (MKAK)	Health clinics in Central Zone (Negeri Sembilan, Melaka, Selangor, WP Kuala Lumpur and Putrajaya, Pahang)
2.	Ipoh Public Health Laboratory (MKAI)	Health clinics and hospitals (MOH and university) in Northern Zone (Perlis, Kedah, Perak and Pulau Pinang)

3.	Kota Kinabalu Public Health Laboratory (MKAKK)	Health clinics and hospitals (MOH and university) in Sabah and WP Labuan
4.	Kota Bharu Public Health Laboratory (MKAKB)	Health clinics and hospitals (MOH and university) in Kelantan and Terengganu
5.	Johor Bharu Public Health Laboratory (MKAJB)	Health clinics and hospitals (MOH and university) in Johor
6.	Institute for Medical Research (IMR)	All hospitals (MOH and university) in the Central Zone (Negeri Sembilan, Melaka, Selangor, WP Kuala Lumpur and Putrajaya, Pahang)
7.	Hospital Sultanah Maliha, Langkawi	Health clinics and hospital in Langkawi
8.	Hospital Umum Sarawak (HUS)	Health clinics and hospitals (MOH and university) in Sarawak
9.	Neogenix Laboratories Sdn Bhd	Private hospitals or clinics
10.	Innoquest Pathology Sdn Bhd	
11.	Pathology & Clinical Laboratory (M) Sdn Bhd (PATHLAB)	
12.	Dunia Wellness Laboratories Sdn Bhd	
13.	BP Healthcare	
14.	Lablink (M) Sdn Bhd	

Any queries may be directed to :

The Director,
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