



**MINISTRY OF HEALTH
MALAYSIA**

**GUIDELINES
MPOX MANAGEMENT IN MALAYSIA**

**2nd Edition
(updated on 18th January 2023)**

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1. INTRODUCTION

Mpox (Orthopoxvirus) is a viral zoonotic disease that occurs predominantly in Central and West Africa (i.e. Democratic Republic of the Congo, Republic of the Congo, Cameroon, Central African Republic, Nigeria, Ivory Coast, Liberia, Sierra Leone, Gabon and South Sudan) and is occasionally exported to other regions. It is transmitted to humans through close contact with an infected person or animal, or with materials contaminated with the virus such as beddings, and droplet exposure via exhaled large droplets.

Animal-to-human transmission may occur by bite or scratch, bush meat preparation, direct contact with blood, bodily fluids, or cutaneous or mucosal lesions of infected animals. The virus enters the body through broken skin (even if not visible), respiratory tract, or the mucous membranes (eyes, nose, or mouth).

In May 7 to May 16 2022, World Health Organization (WHO) reported 3 unlinked confirmations of mpox in the United Kingdom. Since then, mpox outbreaks reported in non-endemic countries in WHO regions. The number of cases increased significantly in July 2022 with R-naught around 9. Then, on 23 July 2022, the Director General of WHO declared the multi-country outbreak of mpox to be a Public Health Emergency of International concern (PHEIC).

2. CLINICAL PRESENTATION

The incubation period of mpox is usually 6 to 13 days following exposure but can range from 5 to 21 days. In the initial prodromal phase of illness, typically lasting 1 to 5 days, patients may experience non-specific symptoms such as fever, headache, back pain, muscle aches, lethargy and lymphadenopathy – which is a distinctive feature of this disease. This is followed by a second phase of rash stage.

Within 1 to 3 days after the onset of fever, rashes of varying sizes which is predominantly monomorphic appear with centrifugal distribution, starting on the face and extending towards the arms and legs, then to the hands and feet including the palms and soles. The rash presents in sequential stages – macules, papules, vesicles, pustules, followed by crusting and desquamating over a period of 2 to 4 weeks (Figure a, b, c & d). The lesions range in size from 0.5 to 1 cm in diameter and from a few to several thousands in number.

The disease may also affect oral mucous membranes, genitalia, conjunctivae and the cornea. Uncommon complications include cellulitis, abscesses and necrotizing soft tissue infections, bronchopneumonia, sepsis, encephalitis, and infection of the cornea with ensuing loss of vision.



a) Vesicle

b) Umbilicated
pustule

c) Ulcerated with
scab

d) Healing lesion

Figure 1 (a), (b), (c) and (d): Various stages of skin lesion in mpox

2.1 Mpox Outbreak 2022

Compared with typical mpox in areas with endemic disease, current global mpox outbreak has been associated with concomitant HIV and sexually transmitted infections (STIs), involving primarily gay, bisexual, and other men who have sex with men (MSM). Clinical presentations of currently reported outbreak differed from typical mpox, with fewer persons experiencing prodrome and more experiencing genital rashes.

In a retrospective case series of 528 mpox infections from April to June 2022 at 43 sites in 16 countries, 98% of the patients were gay or bisexual men and 41% had human immunodeficiency virus infection (HIV). In this case series, 95% of the persons presented with a rash (with 64% having <10 lesions) and the most common anatomical sites were the anogenital area (73%); the trunk, arms, or legs (55%); the face (25%); the palms and soles (10%) and 41% had mucosal lesions (with 54 having a single genital lesion).

A wide spectrum of skin lesions was described including macular, pustular, vesicular, and crusted lesions, and 58% had vesiculopustular lesions (Figure 2 and 3). Lesions in multiple phases present simultaneously had also been described. Among patients with anorectal mucosa involvement, symptoms such as anorectal pain, proctitis, tenesmus, or diarrhea were reported. Oropharyngeal symptoms which included pharyngitis, odynophagia, epiglottitis was also reported as the initial symptoms in small group of patients.

Common systemic features preceding the rash included fever (62%), lethargy (41%), myalgia (31%), headache (27%) and lymphadenopathy was reported in 56% of patients. The clinical presentation and severity of mpox appeared similar among persons with or without HIV infection, but in almost all those with HIV infection, HIV was well controlled with a median CD4 cell count of 680 cells per cubic millimeter.



Figure 2: Evolution of perianal lesions in an individual with mpox infection.
 Source: *Supplementary Appendix of Thornhill JP, Barkati S, Walmsley S, et al. N Engl J Med. 2022 Aug 25;387(8): 679-691*



Figure 3: Evolution of genital lesions in an individual with mpox infection.
 Source: *Supplementary Appendix of Thornhill JP, Barkati S, Walmsley S, et al. N Engl J Med. 2022 Aug 25;387(8): 679-691.*

Another study from London, United Kingdom involving 197 men, where 196 (99.5%) were identified as gay, bisexual or Men Who Have Sex with Men (MSM) also showed similar findings. Up to 35.9% participants had concomitant Human Immunodeficiency Virus (HIV) infection while 31.5% had concomitant Sexually Transmitted Infection (STI). All patients presented with mucocutaneous lesions, most commonly on the genitals (56.3%) or in the perianal area (41.6%) while 86.3% participants reported systemic illness. The most common systemic symptoms were fever (61.9%), lymphadenopathy (57.9%) and myalgia (31.5%). Mucocutaneous symptoms were also reported such as rectal pain (36.0%), sore throat (16.8%), penile oedema (15.7%), oral lesions (13.7%) and tonsillar signs (4.6%).

In another multicentre, prospective, observational cohort study in Spain from 11 May to 29 June, 2022 involving 181 patients with confirmed mpox, 92% were gay men, bisexual men, or other MSM. There was 40% with HIV-positive and 11% had a CD4 cell count less than 500 cells per μL , and 17% had concurrent STI. Majority participants had lesions in the anogenital region (78%) while 43% involved oral and perioral region. There were 70 (39%) participants whom had complications requiring treatment: 45 (25%) had a proctitis, 19 (10%) had tonsillitis, 15 (8%) had penile edema, six (3%) an abscess, and eight (4%) had an exanthem.

Data from eight (8) U.S. jurisdictions showed that compared with persons with mpox who did not have HIV infection, those with HIV infection were more likely to report rectal pain (34% vs 26%), tenesmus (20% vs 12%), rectal bleeding (19% vs 12%), purulent or bloody stools (15% vs 8%), and proctitis (13% vs 7%), but were less likely to report lymphadenopathy (48% vs 53%). Rectal signs and symptoms did not vary by HIV immune status (CD4 count <350/ μ L vs \geq 350 μ L).

2.2 Differential Diagnosis for Maculopapular Rash

Because of the non-specific nature of the symptoms and signs of mpox, a wide variety of differential diagnoses should be considered, ranging from chickenpox, measles, rickettsial infections, bacterial skin infections, scabies, syphilis, and drug reactions. The most important differential diagnosis is chickenpox. In chickenpox, the lesions occur at various stages of development whereas all the lesions are generally at the same stage in mpox. Lesions in chickenpox are denser on the trunk than on the face and extremities (centripetal distribution) as compared to mpox which is more severe on the face, hands and feet (centrifugal distribution). Lymphadenopathy is observed prior to and concomitant with the rash in mpox but not in chickenpox. The following table shows the differentiating features between mpox and chickenpox (varicella zoster). Summary of characteristic of mpox and varicella infection is illustrated in **Table 1**.

Table 1: Differences between mpox and varicella infection

Characteristic	Monkeypox	Varicella
Time period		
Incubation period	7–17 d	10–21 d
Prodromal period	1–4 d	0–2 d
Rash period (from the appearance of lesions to desquamation)	14–28 d	10–21 d
Symptoms		
Prodromal fever	Yes	Uncommon, mild fever if present
Fever	Yes, often between 38.5°C and 40.5°C	Yes, up to 38.8°C
Malaise	Yes	Yes
Headache	Yes	Yes
Lymphadenopathy	Yes	No
Lesions on palms or soles	Yes	Rare
Lesion distribution	Centrifugal ^a	Centripetal
Lesion appearance	Hard and deep, well-circumscribed, umbilicated ^a	Superficial, irregular borders, "dew drop on a rose petal"
Lesion progression	Lesions are often in one stage of development on the body; slow progression with each stage lasting 1–2 d ^a	Lesions are often in multiple stages of development on the body; fast progression

Source: Table from "Human mpox" by McCollum, A. M., & Damon, I. K. (2014). *Clinical infectious diseases: an official publication of the Infectious Diseases Society of America*, 58(2), 260–267. <https://doi.org/10.1093/cid/cit703>

2.3 Infectivity Period

Infectivity period ranges from one (1) day before symptoms onset (prodrome period) up to 21 days after the initial symptoms appear, or until all skin lesions have formed scabs and no other symptoms are present. A mpox case is contagious until all the scabs have fallen off and there is intact skin underneath.

3. CASE DEFINITION FOR THE MPOX OUTBREAK 2022

Mpox endemic countries are: Benin, Cameroon, the Central African Republic, the Democratic Republic of the Congo, Gabon, Ghana (identified in animals only), Côte d'Ivoire, Liberia, Nigeria, the Republic of the Congo, and Sierra Leone.

Case definition below is taken from WHO interim guidance for surveillance, case investigation and contact tracing for mpox published on 22 December 2022.

3.1 Suspected case

- i) A person who is a contact of a probable or confirmed mpox case in the 21 days before the onset of signs or symptoms, and who presents with any of the following: acute onset of fever ($>38.5^{\circ}\text{C}$), headache, myalgia (muscle pain/body aches), back pain, profound weakness or fatigue.

OR

- ii) A person presenting since 1 January 2022 with an unexplained acute skin rash, mucosal lesions or lymphadenopathy (swollen lymph nodes). The skin rash may include single or multiple lesions in the anogenital region or elsewhere on the body. Mucosal lesions may include single or multiple oral, conjunctival, urethral, penile, vaginal, or anorectal lesions. Anorectal lesions can also manifest as anorectal inflammation (proctitis), pain and/or bleeding.

AND

for which the following common causes of acute rash or skin lesions do not fully explain the clinical picture: varicella zoster, herpes zoster, measles, herpes simplex, bacterial skin infections, disseminated gonococcus infection, primary or secondary syphilis, chancroid, lymphogranuloma venereum, granuloma inguinale, molluscum contagiosum, allergic reaction (e.g., to plants); and any other locally relevant common causes of papular or vesicular rash.

NOTE: It is not necessary to obtain negative laboratory results for listed common causes of rash illness in order to classify a case as suspected mpox. Sample for mpox or mpox virus infection should be sent if high suspicion of infection due to

either history and/or clinical presentation or possible exposure to a case, as co-infections have been identified during the mpox outbreak 2022.

3.2 Probable case

A person presenting with an unexplained acute skin rash, mucosal lesions or lymphadenopathy (swollen lymph nodes). The skin rash may include single or multiple lesions in the anogenital region or elsewhere on the body. Mucosal lesions may include single or multiple oral, conjunctival, urethral, penile, vaginal, or anorectal lesions. Anorectal lesions can also manifest as anorectal inflammation (proctitis), pain and/or bleeding.

AND

One or more of the following:

- has an epidemiological link to a probable or confirmed case of mpox in the 21 days before symptom onset;
- has had multiple and/or casual sexual partners, either bisexual or MSM, in the 21 days before symptom onset;
- has detectable levels of anti-orthopoxvirus (OPXV) IgM antibody (during the period of 4 to 56 days after rash onset); or a four-fold rise in IgG antibody titer based on acute (up to day 5-7) and convalescent (day 21 onwards) samples; in the absence of a recent smallpox/mpox vaccination or other known exposure to OPXV;
- has a positive test result for orthopoxviral infection (e.g., OPXV-specific PCR without mpox virus -specific PCR or sequencing).

3.3 Confirmed case:

A person with laboratory confirmed mpox virus infection by detection of unique sequences of viral DNA by real-time polymerase chain reaction (PCR) and/or sequencing.

3.4 Discarded case:

A suspected or probable case for which laboratory testing of lesion fluid, skin specimens or crusts by PCR and/or sequencing is negative for mpox virus.

A retrospectively detected probable case for which lesion testing can no longer be adequately performed (i.e., after the crusts fall off) and no other specimen is found PCR-positive, would remain classified as a probable case.

A suspected or probable case should not be discarded based on a negative result from an oropharyngeal, anal or rectal swab or from a blood test alone.

4. LABORATORY TESTING

Diagnosis of mpox can be confirmed with laboratory testing using real-time PCR method. Serology and antigen detection are not recommended for diagnosis purpose, as they cross react with other Orthopoxviruses. To facilitate accurate diagnosis, correct specimens should be collected from suspected cases, and transported to the National Reference Laboratory [Institute for Medical Research (IMR) / designated Public Health Laboratory (PHLs)] / designated laboratories for diagnosis as rapidly as possible.

4.1 Specimen Collection, Handling and Transportation

4.1.1 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 must wear recommended personal protective equipment (PPE) as per infection control guidelines, i.e., disposable gown, double gloves, respirator N95 and eye protector, such as goggles (*please refer to Chapter 5: Infection Prevention and Control for further details*).
- iii. Optimal diagnostic specimens are from skin lesions – vesicular swab of lesion exudate or crusts in sterile container with or without viral transport media and kept in cold chain (2 to 8 degree Celsius). Blood and serum (in plain or gel tube) can be used but often inconclusive due to the short period of viremia and timing of specimen collection. However, blood specimens may be stored in laboratory for future studies or references.

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

Case Category	Disease Phase	Signs / Symptoms	Specimens to Collect
Suspected or probable case	Rash	Vesicles or Pustules	Lesion fluid
		Scabs or Crusts	Lesion scab or crust
Contact	Prodrome	Early stage of fever	Tonsillar tissue swab
			Nasopharyngeal swab
			Blood (Plain Tube with gel separator/ EDTA)
Confirmed case	Post-Rash	Absent	Convalescent serum (2 samples in 2 to 3 weeks apart after diagnosis)

Table 2: Types of samples and collection methods

(Please send **TWO samples** from each lesion)

No	Type of sample		
1.	Lesion fluid		
	Materials needed	Procedure	Test Method
	<p>Lesion fluid swab</p> <p>1. Sterile, synthetic or dacron swabs. (Do not use cotton swabs)</p> <p>2. Sterile container or Viral transport media</p> <p>3. Do not clean the lesion with ethanol or any other disinfectant prior to swabbing</p>	<p>1. 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 to be stored in viral transport media</p> <p>2. Apply firm pressure (generally firm enough so that the swab shaft, if plastic, may bend slightly). This may result in discomfort or slight pain, but it is necessary to obtain adequate DNA.</p> <p>a. If lesion ruptures while swabbing, ensure that swab collects lesion fluid.</p> <p>b. If possible, avoid using swabs that bend too easily which may make applying firm pressure difficult.</p> <p>3. Swipe the swab back and forth on the lesion surface at least 2 to 3 times then</p>	Real-time PCR

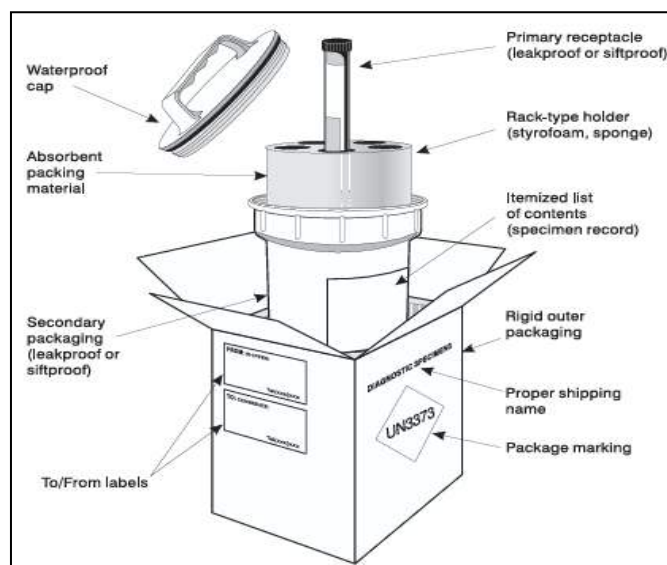
		<p>rotate and repeat on the other side of the swab at least 2 to 3 times.</p> <p>a. If material is visible on the swab surface (such as skin material or from lesion fluid that is leaking from the lesion), this is indicative of an adequate collection. Although please note that material may not always be visible on swabs.</p> <p>4. Place the entire swab in sterile container or container with viral transport media container</p> <p>a. Ensure container, storage and shipping conditions are approved by laboratory that specimen is being sent to for testing.</p>	
2	Scab or crust		
	Materials needed	Procedure	Test Method
	<p>1. Forceps or other blunt-tipped sterile instrument.</p> <p>2. Sterile container or viral transport media.</p> <p>3. Do not clean the lesion with ethanol or any other disinfectant prior to procedure.</p>	<p>1. Use a forceps or other blunt-tipped sterile instrument to remove all or a piece of the crust at least 4mm x 4mm</p> <p>2. Separate each crust into a dry, sterile container or viral transport media.</p> <p>a. Ensure container, storage, and shipping conditions are approved for laboratory that specimen is being sent to for testing.</p> <p>3. Cover lesion with band aid.</p>	<p>Real-time PCR</p>

3	Tonsillar tissue swab		
	Materials needed	Procedure	Test Method
	1. Sterile screw-capped container (1.5 to 2 mL) – 2 sets 2. Sterile dry polyester or Dacron swabs – 2 sets 3. Viral transport media *Do not use cotton swab	1. Swab or brush posterior tonsillar tissue with a sterile dry polyester or Dacron swab. 2. Break off end of applicator into a 1.5-mL or 2-mL screw-capped sterile container or place entire swab in 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 – 2 sets 2. 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 1.5- or 2-mL screw-capped sterile container or place entire swab in a sterile container with viral transport media	Real-time PCR
5	Acute/convalescent serum and whole blood		
	Materials needed	Procedure	Test Method
	10 cc syringe with needle Plain / gel tube	1. Collect 7 to 10 ml of patient blood into a plain or gel blood collection tube when patient is first identified. 2. Obtain convalescent-phase serum 2 to 3 weeks after initial acute-phase serum collection.	Serological / Other test

Refer **Annex 1** for workflow of laboratory approach in mpox investigations.

4.1.2 Specimen Transportation

- i. All specimens must be maintained at cold temperature (2°C to 8°C) during transportation.
- 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. All specimens from community (case or contacts) must be sent as soon as possible to NPHL. Specimens that are collected from the hospitals are sent to IMR.
- iv. Each specimen should be labelled with the patient's name, identification number, collection date, type of specimen, and body location for lesion specimens.
- v. Place specimens from a single patient into a biohazard bag.
- vi. Blood tubes should be placed in individual Styrofoam holders.
- vii. All specimens should be shipped on ice packs at 4°C.
- viii. Specimens may be stored at 4°C up to 48 hours before processing. If specimen cannot be processed within 48 hours, it should be stored at -70°C.
- ix. Specimens should be packaged and shipped in accordance with IATA rules and regulations for diagnostic specimens (UN 3373).
- x. All mpox virus specimens transported to MKAK/ IMR should be packaged by following the Triple Packaging System (Picture 1) which consists of a primary receptacle in a seal able specimen bag wrapped with absorbent material, secondary receptacle (watertight, leak-proof), and an outer box.



**Figure 1 - Triple Packaging System
(Graphic by IATA, Montreal, Canada)**

4.2 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 affected mpox 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/ms/muat-turun/borang-dokumen-bahagian-penyakit/borang-permohonan-ujian.html>.

- ii. *IMR – Borang permohonan ujian PER-PAT 301/ Virology test request form.*
- iii. *Hospital – Borang PER-PAT 301*

Please call officer on duty (Annex 3) for any queries.

4.3 Laboratory Biosafety Guidelines for Handling and Processing Specimens

Laboratory biorisk assessment must be conducted prior to commencement of any laboratory work to gather the information, evaluate it and use it to inform and justify the implementation of processes, procedures and technologies to control the risks present.

Use of a certified Class II Biological Safety Cabinet (BSC) is recommended for manipulations of mpox specimens - if a BSC cannot be used, the risk of exposure to an inadvertent sample release should be reduced by the appropriate combinations of personal protective equipment (e.g., respirators, face shields) and physical containment devices (e.g., centrifuge safety cups or sealed rotors).

Use sealed centrifuge rotors or sample cups for centrifugation. Ideally, these rotors or cups should be unloaded in a BSC.

Routine specimen processing may be handled in BSL-2 facilities, but with more stringent BSL-3 work practices. Measures should be taken to minimize the risk of laboratory transmission when testing routine clinical specimens from confirmed or suspected mpox patients. These may include practicing Good Microbiological Practice and Procedure (GMPP): limiting the number of staffs testing specimens, wearing appropriate personal protective equipment, using rigorously applied standard precautions, and avoiding any procedures that could generate infectious aerosols

Decontamination of work surfaces after the completion of work is essential. Any Environmental Protection Agency (EPA)-registered hospital detergent-disinfectant currently used by health-care facilities for environmental sanitation may be used. Manufacturer's recommendations for use-dilution (i.e., concentration), contact time, and care in handling should be followed.

If the appropriate safety equipment and/or protocols are not available, consideration should be made to refer specimens to a suitably equipped reference laboratory.

4.4 Laboratory Waste Disposal Management

All contaminated disposable equipment and PPE (e.g., gown, gloves, mask/respirator N95) used during the manipulation and handling of specimen including specimen collection and processing should be placed in a biohazard bag for disposal with other medical waste. Needles and other sharp instruments should be placed in a sharp container.

Reusable equipment (e.g., goggles, face shield, Powered Air Purifying Respirator) should be disinfected and set aside for reprocessing.

Contaminated waste generated during specimen processing should be handled in accordance with existing facility procedures and local or state regulations for regulated medical waste.

5. INFECTION PREVENTION AND CONTROL (IPC)

5.1 The principles of IPC to prevent or limit transmission of mpox infection in healthcare facilities include:

Ensuring triage, early and rapid recognition **and** source control.

- a. Rapid case identification of patients should be done at all entry points of the healthcare facility.
- b. Creating awareness among health care providers through webinars/CME session
- c. Post visual alerts (in appropriate languages) at the entrance to outpatient facilities (e.g. emergency departments, outpatient clinics) instructing patients

- and visitors to inform healthcare personnel if they have symptoms related to mpox when they first register for care.
- d. Screening of patients and visitors
 - Screening questions should include epidemiological link (i.e. travel history, contact with animals or consumption of partially cooked wild animals, sexual history) and clinical presentation.
 - Temperature screening/ pustular eruptive rash on face and hand
 - e. Advise patients to wear mask or cover their nose and mouth when coughing or sneezing with tissue or flexed elbow.
 - f. Healthcare workers (HCW) should maintain at least 1 meter from the patient whenever possible.
 - g. Pregnant and immunosuppressed health professionals should be excluded from providing care to patients suspected or confirmed with mpox.
 - h. If a patient or visitor fulfils the criteria of suspected mpox based on the screening questionnaire, they should be separated from other patients by mean such as isolation or negative pressure room / tent or areas as soon as possible.
 - i. Cleaning of high touch areas (i.e. chair, table, couch) at waiting and triage areas after the patient leaves the area or as required (i.e. spillage, soiling)
 - j. Examination / isolation room at entry points (i.e., ED / primary care etc) should be in descending order of preference:
 - i) Negative air pressure room (if varicella is suspected / not excluded)
 - ii) Single room (with door closed) and attached bathroom
 - iii) Single room

5.2 IPC for suspected or confirmed patients with mpox

Health care workers caring for patients with suspected or confirmed mpox should implement standard, contact and droplet infection control precautions. This includes all workers such as cleaners and laundry personnels who may be exposed to the patient care setting, bedding, towels, or personal belongings.

In addition to contact and droplet precautions, airborne precautions should be implemented if varicella zoster virus (i.e. chickenpox) is suspected and until it is excluded.

Patients should cover their exposed lesions and wear face mask if they can tolerate it when others are in the room.

- i. **Patient Placement on Admission**
 - Confirmed or suspected patients should be placed in descending order of preference:
 - a) Single room (with door closed) and attached bathroom
 - b) Single room

*Negative air pressure room (airborne precaution) if:

1. Varicella zoster is suspected/not excluded
2. Anticipating/performing aerosol generating procedures

ii. **Hand hygiene as per the WHO 5 moments.**

iii. **Personal protective equipment (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
- 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)
- Gloves
- Isolation gown
- Dedicated boots or foot wear that can be disinfected.*

* Disposable shoe covers are not recommended

iv. **Disinfection and sterilisation**

- All single use medical equipment should not be re-used.
- Dedicate the use of non-critical patient-care equipment to avoid sharing between clients / patients / residents (e.g. stethoscope, sphygmomanometer, thermometer or bedside commode).
- All reusable medical equipments (e.g., blood glucose meter and other point of care devices, surgical instruments, endoscope) must be cleaned and reprocessed according to general protocols for disinfection and sterilization prior to use on another patient.

v. **Environmental Hygiene - Cleaning and Disinfection**

- Ensure environmental cleaning and disinfection procedures are followed consistently and correctly as per healthcare facilities recommendation.
- Clean and disinfect surfaces that are likely to be contaminated with pathogens, including those that are in close proximity to the patient (e.g. bed rails, over bed tables) and frequently-touched surfaces in the patient care environment (e.g. door knobs, surfaces in and surrounding toilets in patients' rooms).

- Use water and detergent first followed by disinfectant with virucidal activity according to national IPC recommendation.
- Any disinfectant currently used by healthcare facilities for environmental sanitation may be used. Follow the manufacturer's recommendations.
- For **isolation room**, terminal cleaning and disinfection should be done following discharge/transfer of a patient. Refer to Infection Prevention and Control Policies and Procedures, 3rd Edition, 2019 for the steps of terminal cleaning.
- Activities such as dry dusting, sweeping or vacuuming should be avoided. Wet cleaning methods are preferred.

vi. **Waste Management**

- General waste should be segregated from infectious waste.
- Infectious waste should be handled and treated in accordance with healthcare facility policies and local regulations.
- HCW who are involved in waste management should be trained and wear appropriate PPE.

vii. **Linens Management**

- Contaminated linen should be handled with minimal manipulation to prevent contamination of the air, surfaces and persons.
- All linen should be handled inside the isolation room/cohort area/ward.
- Linen should be lifted and rolled and not shaken
- Appropriate PPE (isolation gown, eye protection, N95/face mask gloves) should be donned prior to handling the used linen.
- Washing/disinfecting linen should be handled according to healthcare facilities protocol.
- Staff in laundry area should wear similar PPE and avoid shaking the linen and practice standard AND contact precaution

viii. **Safe Injection Practices, Sharps Management and Prevention of Needle injuries.**

ix. **Respiratory Hygiene/Cough Etiquette**

- Should be applied by all individuals with respiratory symptoms.
- All individuals with signs and symptoms of a respiratory infection should:
 - use a surgical mask.
 - cover their mouth and nose when coughing/sneezing.
 - use tissues, handkerchiefs, cloth/fabric or surgical masks and dispose of them into waste containers.
 - clean hands after contact with respiratory secretions.
 - keep at least 1 metre from other patients.

5.3 Patients transferring

- **Patient Transfer and Transport within the Healthcare Facilities**
 - Avoid the movement of patients unless medically necessary.
 - If movement of patients is required, use pre planned routes that minimize exposure to other staff, patients and visitors.
 - Ensure that the receiving facility is aware and prepared to receive the patient.
 - Have the patient wear clean clothes/gown, wash their hands, wear a medical mask and cover their lesions to the best extent possible for transport.
 - Clean and disinfect patient-contact surfaces (e.g. bed, wheelchair, incubators) after use.
 - HCWs transporting patients must wear appropriate PPE.

5.4 Specimen Collection and Transport

- *Refer to the **4.1 Specimen Collection, Handling And Transportation**

5.5 Visitors and caregivers' policy

- No visitor should be allowed unless visitors who are essential such as parents of paediatric patients.
- HCW should educate and supervise the caregivers on hand hygiene (before entering and leaving the room), respiratory etiquette, physical distancing (maintain at least 1 metre), use of PPE and other IPC measures as well as on how to recognize the signs and symptoms of mpox infection.
- PPE recommended for these caregivers may be limited to surgical masks. The use of a plastic apron and gloves are recommended when anticipating exposure to bodily fluids.

5.6. Duration of Isolation Precautions for Patients with Suspected or Confirmed Mpox Infection

For patients with suspected or confirmed mpox infection in a healthcare setting:

- those with suspected mpox infection should have recommended isolation precautions for mpox maintained until mpox infection is ruled out.
- those with confirmed mpox infection should have recommended isolation precautions for mpox maintained until all lesions have crusted, those crusts have separated, and a fresh layer of healthy skin has formed underneath.

Decisions regarding discontinuation of isolation precautions in a healthcare facility may need to be made in consultation with the local or state health department, depending on the jurisdiction.

6. CASE MANAGEMENT

6.1 Management of Initial Mpox Cases in Malaysia

A suspected and probable mpox case should be quarantined at home while waiting for their laboratory result. Those who are not able to comply with home surveillance can be considered for admission.

Once confirmed mpox, the case should be issued an isolation order. Order to isolate oneself is issued under section 14 of Act 342 which says “*An authorized officer may cause any person who is infected or whom he has reason to believe to be infected to be removed to a quarantine station for treatment and may detain the person at the station until he can be discharged without danger to the public*”. However, if isolation is carried out at their own house or any appropriate place, the requirement and risk of transmission should be explained to the patient and health supervision should be done regularly during the isolation period.

A confirmed case should be admitted to hospitals for isolation if:

- i. they are in a dire situation that their health and condition need to be monitored closely,
- ii. they have multiple comorbidities and the likelihood for any complication to arise is high, and
- iii. non-compliance to the isolation order other than hospital facilities can facilitate the transmission in the community.

Isolation precautions should be practiced until all lesions have resolved, and a fresh layer of skin has formed. The patient can be discharged from isolation upon assessment on the risk of disease transmission to others.

6.2 Widespread Mpox Cases in Malaysia

Admission criteria

- a. Patients who are clinically ill **OR** have the following symptoms:
 - Persistent fever beyond day 5
 - Exertional dyspnea, SpO₂ < 95% (at rest or at exertion)
 - Dehydration
 - Secondary infection of skin lesions
 - Reduced level of consciousness
 - Blurring of vision
- b. Patients with uncontrolled medical conditions, immunocompromised status, pregnant women, extremes of age (< 2 years or > 60 years old).

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

NOTE: *If there were to be high number of cases, admission for isolation of mpox cases into the ward will be reviewed.*

Checklist for suitability of patients to undergo home surveillance:

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

- a. Has a separate bedroom with en-suite bathroom (preferable); if not, common bathroom with frequent disinfection.
- b. Has access to food and other necessities.
- c. Has access to face mask, glove and disinfectant at home.
- d. Able to seek medical care if necessary and return with own private transport.
- e. Able to adhere to instruction to follow home surveillance order.
- f. Able to stay away (at least 2 meter 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).

7. CASE NOTIFICATION

All suspected, probable or confirmed mpox cases must be notified to the District Health Office within 24 hours via phone call. This is then followed by the Borang Notifikasi Penyakit Berjangkit under “other life-threatening microbial infection” (Annex 4) or input patient’s information into the e-Notification System.

All notified mpox cases (suspected, probable or confirmed) must be investigated using the Investigation Form in Annex 5. It is to identify the source of the infection, so that preventive and control measures can be taken immediately to prevent its spread.

A suspected case should be issued Observation and Surveillance order at home or residence under section 15(1) of Prevention and Control of Infectious Disease Act 1988 [*Act 342*] while waiting for the laboratory test result (Annex 6). Patient should be explained on the importance of the surveillance and risk of transmission of the infection. Release order can be issued once the test is negative mpox virus (Annex 7).

8. CASE TREATMENT

Currently, there is no proven definitive treatment for mpox virus infection. The main principles of management are rapid isolation to control the outbreak, as well as symptomatic treatment for patients. A mpox case is ordered to undergo isolation under section 14 of Prevention and Control of Infectious Disease Act 1988 [*Act 342*] in a quarantine station i.e. hospital.

CDC Atlanta has reported that mpox outbreak can be controlled with administration of smallpox vaccine and vaccinia immune globulin (VIG), and use of antiviral cidofovir and tecovirimat. Ministry of Health (MOH) will explore further on the availability of specific treatment and vaccine for mpox.

8.1 General Care

- Supportive care and symptomatic treatment, optimal nutritional support, maintain fluid and electrolytes balance, and close monitoring.
- Monitor vital signs (BP/PR/RR) 12 hourly to 8 hourly with increase in monitoring if indicated.
- Blood investigations, e.g. trend of FBC, CRP, LFT, RP, coagulation and blood culture according to clinical indications.
- Monitor sugar if indicated.
- Patients should not be routinely prescribed antibiotics unless suggestive of bacterial infection. Lesions should be monitored for secondary bacterial infection (i.e. cellulitis, abscess) and if present treated with antibiotics with activity against normal skin flora, including *Streptococcus pyogenes* and methicillin-sensitive *Staphylococcus aureus* (MSSA).

8.2 Skin care

Treatment objectives of skin care are:

- to prevent secondary bacterial infections
- to promote lesion healing
- to minimize insensible fluid loss

Therapeutic considerations

- Avoid scratching and picking the skin lesions.
- Wash/bath: Use gentle cleanser or soap twice a day.
- Apply calamine lotion twice a day for soothing effect and to relieve itch.
- Topical antibiotics/antiseptics can be applied onto the excoriated lesions.
- Avoid using topical corticosteroid onto the skin lesions.

Follow up/monitoring: to observe for the following signs:

- fever
- lesion count/rash burden
- pain/tenderness
- erythema
- edema
- exudate
- warmth

If ulcer or abscess developed:

- antiseptic wash with occlusive dressing

- systemic antibiotic to treat secondary bacterial infection
- consider surgical debridement for abscess or infected ulcers

8.3 Pain Management

- Pain is a common symptom of mpox virus infection, and specific considerations regarding management of pain as well as specific sites or complications of disease (e.g., proctitis) need to be addressed.
- Use pain score to assess pain.
- Paracetamol, NSAIDS are recommended for general pain control.
- Topical steroids and anaesthetics like lignocaine could also be considered for local pain relief. However, topical anaesthetics should be used with caution on broken skin or on open or draining wounds. Use disposable gloves and practice hand hygiene to minimise the risk of autoinoculation.
- Gabapentin and opioids can be used for short-term management of severe pain.

8.4 Proctitis

- Stool softeners should be considered to reduce pain associated with bowel movements.
- Warm sitz baths could be considered for symptomatic relief.
- Paracetamol, NSAIDS and topical anaesthetics can provide symptomatic relief.
- Severe pain may require opioids and adjunctive neuropathic pain agents like Gabapentin.
- Look out for complications like rectal perforation and perianal abscess.

8.5 Genital lesions

- Complications like penile oedema, paraphimosis/phimosis or secondary bacterial infections of the penis and scrotum need to be sought out.
- General pain control considerations as outlined above.

8.6 Oropharyngeal lesions

- Complications like tonsillar oedema, peritonsillar abscess and epiglottitis have been reported.
- Consider rinsing the mouth with clean salt water 4 times/day.
- Oral antiseptic like chlorhexidine mouth wash, local anaesthetic and analgesic mouth wash can also be considered.

8.7 Specific Treatment

Treatment should be considered for use in people with following clinical manifestations:

- Severe disease — haemorrhagic disease; large number of lesions such that they are confluent; sepsis; encephalitis; ocular or periorbital infections; or other conditions requiring hospitalization.
- Involvement of anatomic areas which might result in serious sequelae that include scarring or strictures — example: lesions directly involving the pharynx causing dysphagia, inability to control secretions, or need for parenteral feeding.
- High risk of severe disease – severely immunocompromised
- Pediatric populations – younger than 8 years of age
- Pregnant / breastfeeding women
- People with conditions affecting skin integrity – atopic dermatitis, eczema, burns

Currently there is no treatment approved specifically for mpox virus infections. However, antivirals developed for use in patients with smallpox may prove beneficial against mpox.

Antivirals like Tecovirimat, Cidofovir, Brincidofovir and Vaccinia Immune Globulin Intravenous have been listed as part of treatment considerations.

8.8 Home Care – Skin Care

The following are the important steps of skin care at home

- Avoid scratching and picking the skin lesions to prevent secondary bacterial infection.
- Use gentle cleanser or soap with lukewarm water to wash your body twice a day
- Gently dab your skin with a clean towel after bath and avoid rubbing on the skin lesions.
- You may apply calamine lotion twice a day onto your skin to reduce itch sensation.
- If there is any open wound, you may use antiseptic wash or apply antibiotic cream onto the wound.
- Observe closely for the following signs of secondary bacterial infection:
 - Fever
 - Pain, swelling, redness, warmth and pus discharge from the skin lesions
- Seek treatment immediately from a doctor if you have any above signs of secondary infection.

9. CONTACT TRACING

9.1 Close Contact includes:

- i) Anyone who provided care for a mpox patient including a health care worker or family member, or had other similarly close physical contact, or
- ii) Anyone who stayed at the same place with a probable or confirmed mpox case while he/she was symptomatic with maculopapular rash (e.g. lived with or visited).

9.2 Management of Close Contact

Contacts with high risk of infections need to be observed for 21 days from the date of last exposure to the confirmed case, for any mpox symptoms and signs. The order for observation is a provision under subsection 15(1) Act 342, which is

“Subsection 15. (1) An authorized officer may order any contact to undergo observation in such place and for such period as he may think fit, or to undergo surveillance until he may be discharged without danger to the public.”

Their health status needs to be monitored daily by a health care worker or using MySejahtera app.

Asymptomatic contacts should not donate blood, cells, tissue, organs, breast milk or semen while they are under symptom surveillance.

10. MANAGEMENT OF DEAD BODY

The dead body is considered infectious as long as there are maculopapular rash with or without exudate, as long as there is no intact skin underneath the rash. Hence, the management of deceased is per infectious disease protocol.

Personnel who manage the deceased should wear PPE as recommended for Standard, Contact and Airborne Precautions.

All post-mortem procedures require adherence to standard precautions with the use of appropriate PPE. It should be conducted in facilities with appropriate safety features. When possible, personnel with smallpox vaccination should participate in autopsy or mortuary care for patients with confirmed or suspected mpox.

11. PREPAREDNESS AND RESPONSE AT INTERNATIONAL POINT OF ENTRY

11.1 Suspected cases are required to report to the health personnel at the Health Screening Area at entry point.

- i. Passengers and crew who detected to have fever or self-referral at the health screening area / health quarantine centre will be screened for mpox infection through history taking and examination as detailed in Annex 8 which include history of travel to mpox affected countries.
- ii. Cases suspected of mpox with history of travel to affected mpox countries will be referred to the nearest health facilities for further management.
- iii. Cases which did not fulfil the criteria of suspected mpox will be provided with health advice and issued a copy of a Health Alert Card (HAC) as in Annex 10(i) dan Annex 10(ii).
- iv. All cases of suspected mpox are to be notified to the nearest District Health Office, State CPRC and National CPRC.

11.2 Management of Suspected Mpox Case On-Board Flight /Cruise/Ships

- i. The suspected cases which have been identified by the crew will be informed by the crew to the health authority at the point of entry.
- ii. Suspected case will be received by health personnel at the arrival gates. Other passengers and crew are allowed to disembark from the aircraft and proceed to health screening at arrival hall.
- iii. Health personnel will bring the suspected case to health screening area for full examination and history taking.
- iv. Suspected case (name, citizenship, passport number/identification number, contact details and address in Malaysia) will be submitted to the State Health Department and Zoonoses Sector, MOH for immediate implementation of surveillance and prevention activities.
- v. Cases suspected of mpox with history of travel to the affected mpox countries will be referred to the nearest health facility for further management.
- vi. Travelers sitting 2 seats in front, back and side of the suspected mpox will be given a Health Alert Card so they can monitor their health for the next 3 weeks. If they become symptomatic later (e.g. fever, swelling, headache, back pain, macular-pustular rashes), they are required to seek immediate treatment at any

clinic and should inform the doctor any history of returning from the affected country with mpox.

- vii. Flow chart for management and screening of travellers and crew arriving from affected countries with human mpox cases at the international point of entry is summarised in Annex 9.

11.3 Other Preparedness and Response Against Mpox Infection

Heightening awareness on mpox, prevention and control measures to public, passengers and crew through:

- i. Distribution of education materials such as pamphlets, posters and travel advisory to passengers, crew, airport/port/ground crossing workers (Annex 11).
- ii. Pre-departure or on board announcement for flight, cruise or ship coming from affected countries before arrival (Annex 12). On arrival announcement should be based on convenience.
- iii. Updated information on social media – website, Facebook.
- iv. Displays streamer/bunting on mpox and control measures.

12. HEALTH EDUCATION

Health promotion and education is to be conducted through multiple channels and methods to:

- encourage people with symptoms to seek treatment and to confirm the diagnosis;
- isolate infected patients from others who could be at risk for infection;
- urge contact of mpox cases to stay home and observe symptoms and signs of mpox for 21 days from the last day of meeting the case;
- advise those caring for mpox patients to use personal protective equipment (PPE) when managing them;
- avoid contact with any materials, such as bedding and clothes that has been in contact with a mpox case;
- avoid contact with animals that could harbour the virus (including animals that are sick or that have been found dead in areas where mpox occurs); and
- practice good hand hygiene after contact with infected humans or animals, washing hands with soap and water or using an alcohol-based hand sanitizer.

13. COLLABORATION WITH OTHER AGENCIES & MINISTRIES

- i. Sharing information on surveillance of mpox in animals among MOH, Department of Veterinary Services (DVS) Malaysia, Department of Malaysian Quarantine Inspection Services (MAQIS) and Department of Wildlife and National Parks of Peninsular Malaysia (PERHILITAN).
- ii. Working in close collaboration with other relevant agencies such as National Security Council (MKN), Ministry of Foreign Affairs (MOFA), Ministry of Home Affairs (KDN), Ministry of Transport (MOT), Ministry of Tourism, Art and Culture (MOTAC), The Immigration Department of Malaysia, Royal Malaysian Customs, Royal Malaysian Police Force, Department of Civil Aviation Malaysia, airport/port/ground crossing authorities and agencies, airlines, shipping companies, private health facilities and other agencies/ministries, etc.
- iii. Reporting to health authority at international point of entry is required by the aircraft/ship/vehicle if there are passengers from mpox affected countries showing signs and symptoms of mpox.
- iv. To obtain assistance and cooperation as and when needed from all agencies/stake holders in disease prevention and control activities.

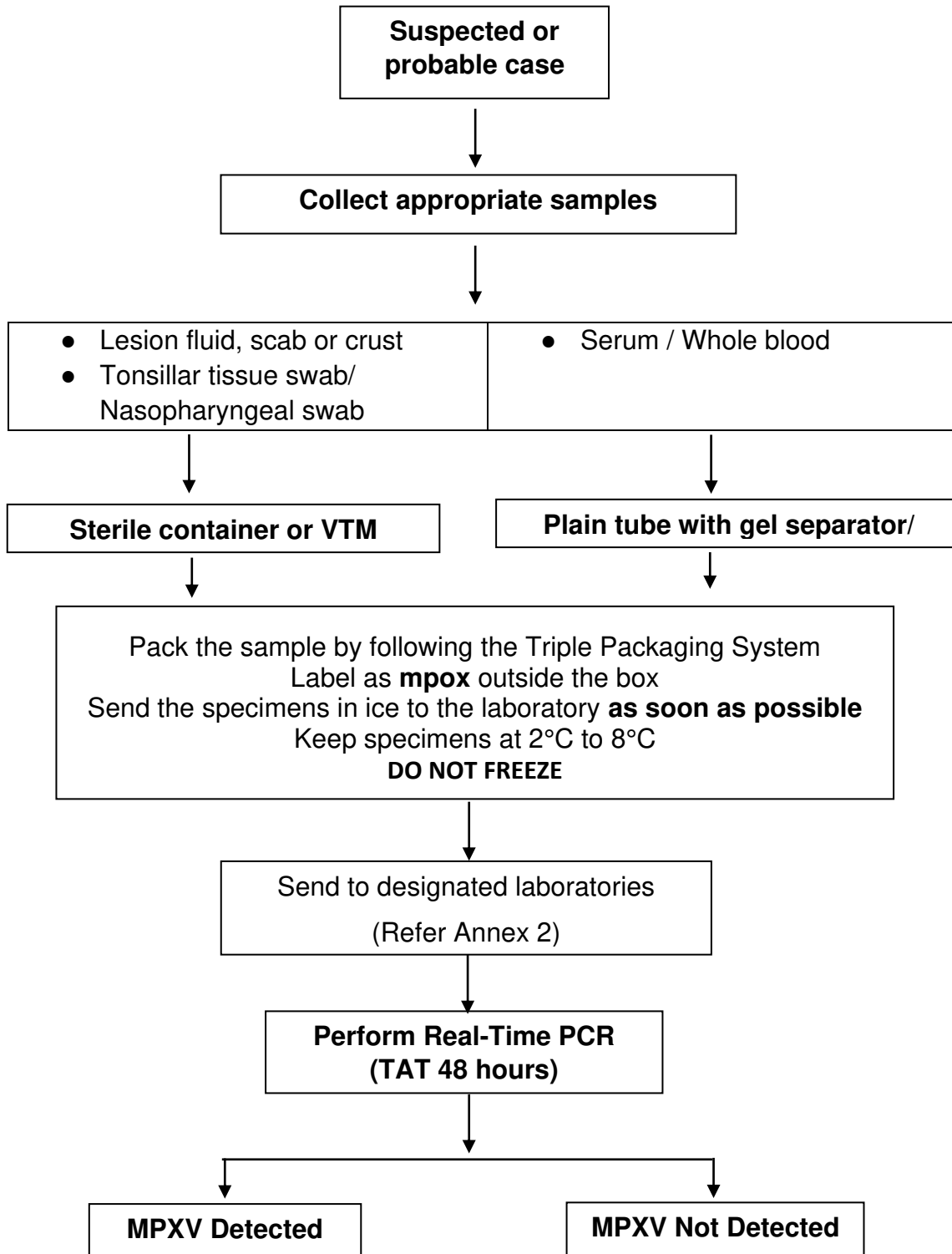
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WORKFLOW OF LABORATORY APPROACH IN MPOX INVESTIGATIONS



**SENARAI MAKMAL
YANG BOLEH MENJALANKAN UJIAN MPOX PCR**

Bil.	NAMA MAKMAL	Pemohon Ujian dari
1.	Makmal Kesihatan Awam Kebangsaan (MKAK)	Klinik Kesihatan di Zon Tengah (Negeri Sembilan, Melaka, Selangor, WP Kuala Lumpur dan Putrajaya, Pahang)
2.	Makmal Kesihatan Awam Kebangsaan Ipoh (MKAI)	Klinik Kesihatan di Zon Utara (Perlis, Kedah, Perak)
3.	Makmal Kesihatan Awam Kebangsaan Kota Kinabalu (MKAKK)	Klinik Kesihatan dan hospital di Sabah dan WP Labuan
4.	Makmal Kesihatan Awam Kebangsaan Kota Bharu (MKAKB)	Klinik Kesihatan dan hospital di Kelantan dan Terengganu
5.	Makmal Kesihatan Awam Kebangsaan Johor Bharu (MKAJB)	Klinik Kesihatan dan hospital di Johor
6.	Institut Penyelidikan Perubatan (IMR)	Semua hospital di Zon Tengah dan Zon Utara (selain Langkawi)
7.	Hospital Sultanah Maliha, Langkawi	Klinik Kesihatan dan hospital di Langkawi
8.	Hospital Umum Sarawak (HUS)	Klinik Kesihatan dan hospital di Sarawak
9.	Neogenix Laboratories Sdn Bhd	Hospital atau klinik swasta
10.	Innoquest Pathology Sdn Bhd	
11.	PATHLAB Laboratory Malaysia	
12.	Dunia Wellness Laboratories Sdn Bhd	

**SENARAI PEGAWAI UNTUK DIHUBUNGI UNTUK PENGHANTARAN SAMPEL
DI LUAR WAKTU PEJABAT, HUJUNG MINGGU DAN CUTI UMUM KE IMR DAN MKAK**

UNIT VIROLOGI, IMR

No.	Nama Pegawai IMR	Jawatan	No. Pejabat	No. H/P
1	Dr. Rozainanee Mohd Zain	Ketua Unit Virologi	03-3362 8120	013-341 2468
2	Pn. Tengku Rogayah Tg Abd Rashid	Pegawai Penyelidik	03-3362 8942	019-228 3955
3	Dr. Banusha Vanukuppal	Pegawai Perubatan	03-3362 8941	013-345 6300
4	Dr. Khayri Azizi Kamel	Pegawai Perubatan	03 3362 7411	011-1564 9265
5	Dr. Safiah Abdullah	Pegawai Perubatan	03-3362 7521	019-332 2711
6	Dr. Fatin Amirah Shuib	Pegawai Perubatan	03-3362 8641	017-614 6838

UNIT VIROLOGI MKAK

No.	Nama Pegawai MKA Kebangsaan (MKAK)	Jawatan	No. Pejabat	No. H/P
1	Dr. Donal Huda Nasril	Pakar Patologi (Mikrobiologi Perubatan)	03-61261281	016-2217131
2	Pn. Yu Kie A/P Chem	Pegawai Sains Mikrobiologi	03-61261304	013-2081724
3	En. Selvanesan A/L Sengol	Pegawai Sains Mikrobiologi	03-61261301	016-2657105

NOTIFICATION FORM

JADUAL (Penulisan 2) Borang (Pewatan 2) AKTA PENCEGAHAN DAN PENGAWALAN PENYAKIT BERJANGKIT 1988 PERATURAN-PERATURAN PENCEGAHAN DAN PENGAWALAN PENYAKIT BERJANGKIT (BORANG NOTIS (PINDAAN) 2011)			Isiang Notis: Rev(2010) No. Siri:
NOTIFIKASI PENYAKIT BERJANGKIT YANG PERLU DILAPORKAN (Sekyen 10, Akta Pencegahan Dan Pengawalan Penyakit Berjangkit 1988)			
A. MAKLUMAT PESAKIT			
1. Nama Penuh (HURUF BESAR): <table border="1" style="width: 100%; height: 20px;"></table>			
Nama Panggilan (Ibu/Bapa/Penjaga): <table border="1" style="width: 100%; height: 20px;"></table> (Jika belum mempunyai Kad Pengenalan diri)			
2. No. Kad Pengenalan Diri / Dokumen Perjalanan <table border="1" style="width: 100%; height: 20px;"></table> <input type="checkbox"/> Sendiri <input type="checkbox"/> Panggilan (Untuk Bukan Warganegara)			
No. Daftar Hospital / Klinik <table border="1" style="width: 100%; height: 20px;"></table> Nama Wad: _____ Tarikh Masuk Wad: <table border="1" style="width: 100%; height: 20px;"></table>			
3. Kewarganegaraan: Warganegara: <input type="checkbox"/> Ya <input type="checkbox"/> Tidak Keturunan: <table border="1" style="width: 100%; height: 20px;"></table> Suku-keturunan: <table border="1" style="width: 100%; height: 20px;"></table> (Bagi Q/Asl, Pribumi Sabah/Sarawak) Negara Asli: <table border="1" style="width: 100%; height: 20px;"></table> Status Kedatangan: <input type="checkbox"/> Izin <input type="checkbox"/> Tanpa Izin <input type="checkbox"/> Penduduk Tetap		4. Jantina: <input type="checkbox"/> Lelaki <input type="checkbox"/> Perempuan 5. Tarikh Lahir: <table border="1" style="width: 100%; height: 20px;"></table> 6. Umur: <table border="1" style="width: 100%; height: 20px;"></table> Tahun <input type="checkbox"/> Bulan <input type="checkbox"/> Hari 7. Pekerjaan: _____ (Jika tidak bekerja, nyatakan status diri)	
8. No. Telefon: <input type="checkbox"/> Rumah <input type="checkbox"/> Tel. Bimbit <input type="checkbox"/> Pejabat <table border="1" style="width: 100%; height: 20px;"></table> (Untuk dihubungi)			
9. Alamat Kediaman <table border="1" style="width: 100%; height: 20px;"></table>		10. Alamat Tempat Kerja / Belajar: <table border="1" style="width: 100%; height: 20px;"></table>	
B. DIAGNOSIS PENYAKIT			
<input type="checkbox"/> 1. Poliomyelitis <input type="checkbox"/> 2. Viral Hepatitis A <input type="checkbox"/> 3. Viral Hepatitis B <input type="checkbox"/> 4. Viral Hepatitis C <input type="checkbox"/> 5. Viral Hepatitis (Others) <input type="checkbox"/> 6. AIDS <input type="checkbox"/> 7. Chancroid <input type="checkbox"/> 8. Cholera <input type="checkbox"/> 9. Dengue Fever <input type="checkbox"/> 10. Dengue Haemorrhagic Fever <input type="checkbox"/> 11. Diphtheria <input type="checkbox"/> 12. Dysentery <input type="checkbox"/> 13. Ebola <input type="checkbox"/> 14. Food Poisoning <input type="checkbox"/> 15. Gonorrhoea <input type="checkbox"/> 16. Hand, Food and Mouth Disease <input type="checkbox"/> 17. Human Immunodeficiency Virus Infection <input type="checkbox"/> 18. Leprosy (Multibacillary) <input type="checkbox"/> 19. Leprosy (Paucibacillary) <input type="checkbox"/> 20. Leptospirosis <input type="checkbox"/> 21. Malaria - Vivax <input type="checkbox"/> 22. Malaria - Falciparum <input type="checkbox"/> 23. Malaria - Malariae <input type="checkbox"/> 24. Malaria - Others <input type="checkbox"/> 25. Measles <input type="checkbox"/> 26. Plague <input type="checkbox"/> 27. Rabies <input type="checkbox"/> 28. Relapsing Fever <input type="checkbox"/> 29. Syphilis - Congenital <input type="checkbox"/> 30. Syphilis - Acquired <input type="checkbox"/> 31. Tetanus Neonatorum <input type="checkbox"/> 32. Tetanus (Others) <input type="checkbox"/> 33. Typhus - Scrub <input type="checkbox"/> 34. Tuberculosis - PTB Smear Positive <input type="checkbox"/> 35. Tuberculosis - PTB Smear Negative <input type="checkbox"/> 36. Tuberculosis - Extra Pulmonary <input type="checkbox"/> 37. Typhoid - Salmonella typhi <input type="checkbox"/> 38. Typhoid - Paratyphoid <input type="checkbox"/> 39. Viral Encephalitis - Japanese <input type="checkbox"/> 40. Viral Encephalitis - Nipah <input type="checkbox"/> 41. Viral Encephalitis - (Others) <input type="checkbox"/> 42. Whooping Cough / Pertussis <input type="checkbox"/> 43. Yellow Fever <input type="checkbox"/> 44. Others: please specify: _____			
Selain dari notifikasi bertulis, penyakit berikut perlu dinotifikasi melalui telefon dalam tempoh 24 jam iaitu:- Acute Poliomyelitis, Cholera, Dengue, Diphtheria, Ebola, Food Poisoning, Plague, Rabies dan Yellow Fever			
11. Cara Pengawasan Kes: <input type="checkbox"/> Kes <input type="checkbox"/> Hentak <input type="checkbox"/> FOMDMA * <input type="checkbox"/> Ujian Serangan _____		12. Status Pesakit: <input type="checkbox"/> Hilang <input type="checkbox"/> Mati <table border="1" style="width: 100%; height: 20px;"></table>	
13. Tarikh Onset: <table border="1" style="width: 100%; height: 20px;"></table>		14. Ujian Mikrobi: Nama Ujian: (I) _____ (R) _____ (R) _____ Tarikh Sampel Diambil: <table border="1" style="width: 100%; height: 20px;"></table>	
15. Keputusan Ujian Mikrobi: <input type="checkbox"/> Positif (_____) <input type="checkbox"/> Negatif <input type="checkbox"/> Belum Siap		16. Status Diagnostik: <input type="checkbox"/> Sementara (Probable/Suspected) <input type="checkbox"/> Diuktikan (Confirmed) Tarikh Diagnostik: <table border="1" style="width: 100%; height: 20px;"></table>	
17. Maklumat Klinik Yang Relevan: <table border="1" style="width: 100%; height: 20px;"></table>		18. Komen: <table border="1" style="width: 100%; height: 20px;"></table>	
C. MAKLUMAT PEMBERITAHU			
19. Nama Pengawal Perubatan: <table border="1" style="width: 100%; height: 20px;"></table>			
20. Nama Hospital / Klinik dan Alamat: <table border="1" style="width: 100%; height: 20px;"></table>			
21. Tarikh Pemberitahuan: <table border="1" style="width: 100%; height: 20px;"></table>			
Tandatangan Pengawal Perubatan			

**BORANG SIASATAN
KES MPOX**

Maklumat Pesakit

Nama: _____

No. K/P atau Passport: _____

No. telefon untuk dihubungi: _____

Warganegara Malaysia / Bukan Warganegara Malaysia (nyatakan): _____

Jika Bukan Warganegara, tempoh telah berada di Malaysia (hari/bulan/tahun):

Alamat semasa: _____

Daerah: _____

Negeri: _____

Tarikh lahir: _____

Pekerjaan: _____

Alamat tempat kerja: _____

Status pesakit (tanda yang berkaitan)

- i. Dirawat di hospital kerajaan / swasta *

Nota: * potong mana yang tidak berkenaan

- ii. Tarikh dimasukkan ke wad

Wad umum

Wad pengasingan

ICU

- iii. Sekiranya mati (tarikh): _____

- iv. Tarikh disahkan positif mpox: _____

--

Jenis ujian: PCR
Virus isolation



Gejala (tanda yang berkenaan):

No.	Simptom	√ di mana yang bersesuaian & tarikh onset
i.	Demam	
ii	Sakit kepala	
iii	Sakit belakang (<i>back pain</i>)	
iv.	Sakit otot (<i>myalgia</i>)	
v.	Kejang otot (<i>asthenia</i>)	
vi.	Bengkak kelenjar (<i>lymphadenopathy</i>)	
vii.	Ruam maculopapular (<i>maculopapular rash</i>)	

Gejala lain yang relevan/komplikasi:

No.	Simptom	√ di mana yang bersesuaian
i.	Demam berpanjangan melebihi 5 hari	
ii	<i>Exertional dyspnea</i> dengan SpO ₂ < 95% (sesak nafas semasa melakukan aktiviti)	
iii.	Dehidrasi	
iv.	Jangkitan sekunder pada lesi mpox di kulit	
v.	Tahap sedar berkurangan (<i>reduced level of consciousness</i>)	
vi.	Kabur penglihatan	

Sejarah pengambilan ubat-ubatan (termasuk ubatan tradisional):

Sejarah ke luar negara dalam tempoh tiga (3) minggu yang lalu. Jika "Ya", nyatakan tarikh ketibaan di Malaysia dan nombor penerbangan.

Sejarah kontak dengan individu bergejala ruam maculopapular dalam tempoh tiga (3) minggu yang lalu:

Sejarah kontak dengan haiwan dengan tanda-tanda jangkitan mpox:

Penyiasatan makmal:

Spesimen	Keputusan
<i>Fluid / exudate maculopapular rash</i>	
<i>Scab / crust</i>	
Mikroskop elektron	
Kajian genetik	

Penyiasatan Kontak:

Senarai ahli rumah, kontak rapat dan pasangan:

No.	Nama	Umur	Simptom (jika ada)

No.	Nama	Umur	Simptom (jika ada)

Lain-lain sejarah ahli keluarga atau pasangan yang berkaitan:
 Status kesihatan, penglibatan dalam aktiviti luar dalam tempoh tiga (3) minggu (atau 21 hari) yang lalu:

Penyiasatan Persekitaran:

Terdapat haiwan dengan gejala jangkitan mpox:

Ya

Tidak

Pegawai Penyiasat:

Nama dan tandatangan:

Jawatan:

Tempat bertugas:

Tarikh:

Disemak dan disahkan oleh:

Nama dan tandatangan:

Jawatan:

Tempat bertugas:

Tarikh:

Form for Observation and Surveillance Order



MINISTRY OF HEALTH MALAYSIA

File Ref.:

District Health Office

.....

.....

Telephone No:

To:

Name:

Identification Card / Passport No:

Current Address:

.....

.....

Phone No.:

Name & Phone No. Next Of Kin:

Order for Observation and Surveillance for Case Suspected Infected with *Monkeypox Virus* Under Subsection 15(1) Prevention and Control of Infectious Disease Act 1988 [Act 342]

1. To carry out the order under section 15(1) Prevention and Control of Infectious Diseases Act 1988 [Act342], I _____, the Authorized Officer appointed under section 3 of Act 342 hereby order you to undergo observation and surveillance at such residence as per above address with conditions as stated in paragraph 2, 3, and 4 of this order; and other conditions as stated in the Home Assessment Tool form, fordays, from (last *date of exposure to confirmed case*) till (*date of 21st day*) or for a period of time as directed by the Authorized Officer(“observation and surveillance period”).

2. While you are placed under the observation and surveillance order, you are required to comply with the order and the conditions stated herein and to monitor your health status using the Home Assessment Tool form (Appendix 1) attached together with this order.

3. If you are the legal guardian of a child under the age of eighteen (18) years old or a disabled

person (OKU), you shall provide the information of the child under the age of eighteen (18) years old or disable person in Appendix 2 and to ensure that the person under your care complies with this order and the conditions stated herein.

4. Your failure to comply with this order and the conditions stated herein constitute an offence under Section 22 (b), Act 342 and if convicted may be punishable under Section 24, Act 342.

The Authorized Officer	
Name	
Designation	
Date & Time	
Confirmation on Receiving a Copy of the Order by the Case Placed Under Observation and Surveillance	
Name	
Identification /Passport No.	
Date & Time	
Signature	

c.c District Health Office

LIST OF CHILDREN UNDER 18 YEARS OLD / DISABLE PERSONS (OKU) UNDER CARE

I, [name]

*identity card/ pasport no.

address in

hereby confirm that the persons named below are children under the age of 18 years old / persons with disabilities and under my care.

NO.	NAME	IDENTITY CARD / MYKID / PASPORT NO.

Signature:

Name:

IC No:

Address:

Handphone No.:

Date:

Form for Release Order from Isolation



MINISTRY OF HEALTH MALAYSIA

Our Ref.:

To:

Name:

Identification Card / Passport No:

Address:

.....

.....

Release From Undergoing Observation and Surveillance Order Under Section 15(1) Prevention And Control Of Infectious Disease Act 1988 [Act 342]

With regards to the above mentioned.

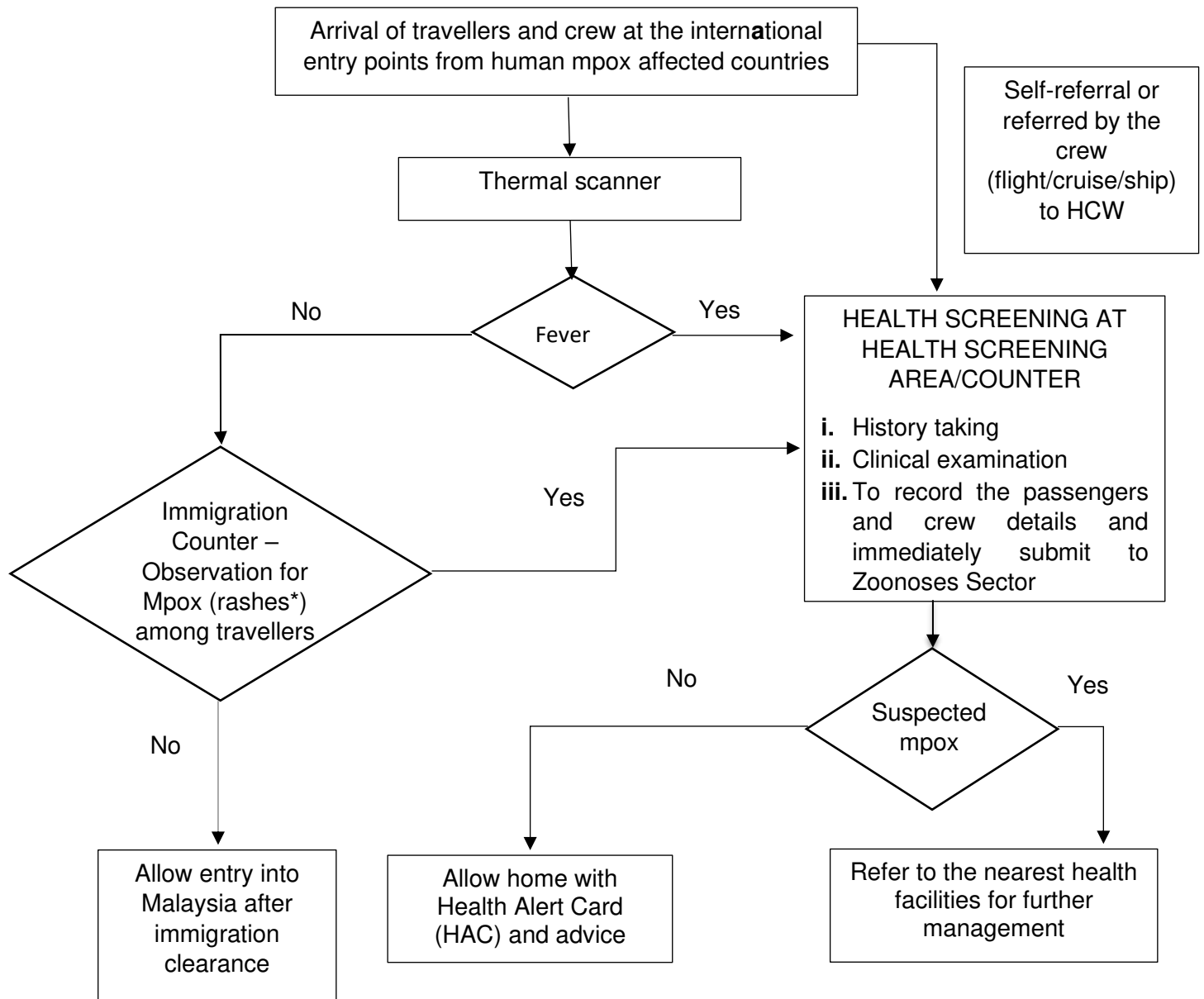
2. Earlier, you had been identified as suspected case of mpox infection and you had been ordered for Observation and Surveillance at home under Section 15(1) Prevention And Control Of Infectious Disease Act 1988 [Act 342]; starting from till

3. Following the assessment carried out by our Ministry, your health status was found to be satisfactory. Therefore, you are given clearance from undergoing observation and Surveillance Order under Act 342, starting from the date mentioned below. The attention and cooperation given by you with regards to this matter is greatly appreciated and thanked.

Yours sincerely,

The Authorized Officer	
Name :	
Designation :	
Working Address & Telephone No. :	
Date & Time :	

FLOW CHART FOR SCREENING OF TRAVELLERS AND CREW ARRIVING FROM HUMAN MPOX VIRUS AFFECTED COUNTRIES AT THE INTERNATIONAL POINT OF ENTRY



**Note: Rashes (vesicle/pustules in the face or extremities)*

**Senarai Semak Pemeriksaan Kes Disyaki Jangkitan Mpox
di Pintu Masuk:**

Tarikh pemeriksaan:

Masa:

A) Maklumat pesakit

Nama		Email	
Umur		No Telefon (di Malaysia)	
Jantina		Warganegara	
Sekiranya Wanita, Tarikh LMP		Alamat Tempat Tinggal di Malaysia (catatkan alamat dengan lengkap/detail)	
No Kad Pengenalan / Pasport			

B) Butiran Lanjut

1. Telah tiba daripada negara dijangkiti penyakit mpox dalam masa 21 hari sebelum ini		Sila maklumkan nama negara:	
2. Butiran penerbangan pulang			
<ul style="list-style-type: none"> • Laluan (Route): • No penerbangan: • No tempat duduk: 			
3. Gejala yang dikesan (sila pilih YA atau Tidak (√) bagi setiap gejala yang disenaraikan) :			
<input type="checkbox"/> Demam	Ya	Tidak	<input type="checkbox"/> Ruam
<input type="checkbox"/> Sakit otot / sakit belakang	Ya	Tidak	<input type="checkbox"/> Asthenia (<i>extreme lethargy</i>)
<input type="checkbox"/> Bengkak kelenjar (<i>lymphadenopathy</i>)	Ya	Tidak	<input type="checkbox"/> Sakit kepala

C) Pemeriksaan Fizikal

Umum

- Suhu Badan - °C
- Tekanan darah - mmHg
- Nadi - / minit
- Ruam makular/vesikel YA Tidak
- Bengkak kelenjar limfa (*lymphadenopathy*) YA Tidak

Penemuan semasa pemeriksaan fizikal (*physical examination findings*):

D) Rawatan dan tindakan susulan :

.....

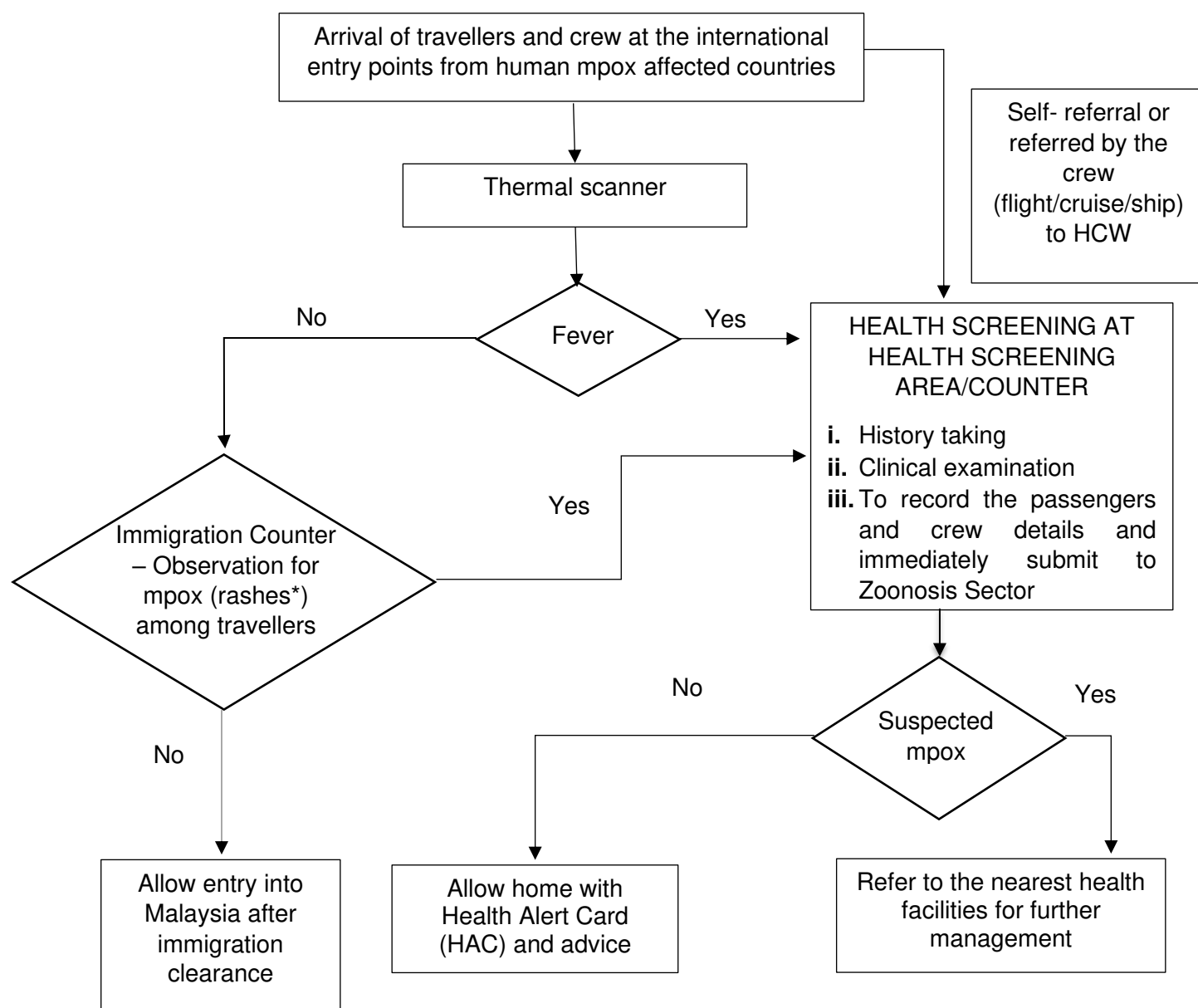
.....

E) Pemeriksaan oleh:

Nama:

Jawatan:

**FLOW CHART FOR SCREENING OF TRAVELLERS AND CREW ARRIVING
FROM HUMAN MONKEYPOX VIRUS AFFECTED COUNTRIES AT THE
INTERNATIONAL POINT OF ENTRY**



**Note: Rashes (vesicle/pustules in the face or extremities)*



MINISTRY OF HEALTH MALAYSIA

HEALTH ALERT CARD

*Keep this card for the next 21 days after arrival in Malaysia. Monitor your body temperature and look out for fever, skin rash (papular/vesicular), muscle or back pain, feeling weak (asthenia), headache and lymphadenopathy. If these symptoms developed and you are not feeling well, seek medical advice **immediately**.*

Attention to The Attending Doctor:

*The person presenting this **HEALTH ALERT CARD** had recently travelled or returned from a *mpox affected country (within the past 21 days). If the person presents with fever (low grade fever less than 38.5°C), skin rash (papular/vesicular), muscle or back pain, feeling weak (asthenia), headache and lymphadenopathy please refer him/her **immediately** to the nearest hospital for investigation and treatment.*

**List of countries affected by mpox:*

Please refer to the WHO or CDC website for the updated countries

Date issued:

Name of entry points:



KEMENTERIAN KESIHATAN MALAYSIA

KAD AMARAN KESIHATAN

Simpan kad ini untuk tujuh 21 hari akan datang selepas kembali ke Malaysia. Pantau suhu badan untuk demam, ruam kulit (papular/vesikular), sakit otot atau belakang, kelesuan, sakit kepala dan bengkak kelenjar (*lymphadenopathy*). Sekiranya anda tidak sihat dan mengalami gejala tersebut, segeralah berjumpa doktor.

Kepada Pengamal Perubatan Yang Merawat Pesakit Ini

Individu yang membawa KAD AMARAN KESIHATAN ini telah membuat perjalanan atau kembali daripada *negara yang terdapat jangkitan mpox (dalam masa 21 hari lalu). Jika individu ini mendapat demam (demam yang kurang dari 38.5°C), ruam kulit (papular / vesikular), sakit otot atau belakang, kelesuan, sakit kepala dan bengkak kelenjar (*lymphadenopathy*), sila rujuk ke hospital yang berhampiran dengan kadar segera untuk pemeriksaan dan rawatan.

****Senarai negara terlibat dengan jangkitan virus mpox:***

Sila rujuk senarai negara terkini di laman web WHO atau CDC

Tarikh dikeluarkan:

Nama pintu masuk:

TRAVEL ADVISORY FOR TRAVELLERS TO COUNTRIES WITH MPOX TRANSMISSION

Mpox key facts

- Mpox is caused by mpox virus, a member of the Orthopoxvirus genus in the family Poxviridae.
- Mpox is a viral zoonotic disease that occurs primarily in tropical rainforest areas of Central and West Africa and is occasionally exported to other regions.
- Mpox typically presents clinically with fever, rash and swollen lymph nodes and may lead to a range of medical complications.
- Mpox usually is a self-limiting disease with symptoms lasting from 2 to 4 weeks. Severe cases can occur. In recent times, the case fatality ratio being around 3-6%.
- Mpox is transmitted to humans through close contact with an infected person or animal, or with material contaminated with the virus.
- Mpox virus is transmitted from one person to another by close contact with lesions, body fluids, respiratory droplets and contaminated materials such as bedding.
- The clinical presentation of mpox resembles that of a smallpox, a related orthopoxvirus infection which was declared eradicated worldwide in 1980. Mpox is less contagious than smallpox and causes less severe illness.
- Vaccines used during the smallpox eradication programme also provided protection against mpox. Newer vaccines have been developed of which one has been approved for prevention of mpox.
- An antiviral agent developed for the treatment of smallpox has also been licensed for the treatment of mpox.

Health Advisory:

Based on the current available information, WHO does not recommend any travel or trade restrictions to mpox affected countries. Given the current global situation of mpox infection, the Ministry of Health, Malaysia would like to advise the public who wish to visit countries affected by the mpox to take the same precautionary measures as follows;

- i. Maintain a high standard of personal hygiene, including frequent hand washing after going to the toilet, or when hands are soiled.
- ii. Avoid direct contact with skin lesions of infected living or dead person or animal, as well as objects that may have become contaminated with infectious fluids, such as soiled clothing or linens (e.g. bedding or towels) used by an infected person or animal.

iii. If a traveller is having any symptom such as:

- sudden onset of high fever;
- headache;
- swollen lymph nodes;
- myalgia;
- back pain;
- extreme fatigue (intense asthenia), or
- macular-papular rash (vesicles or pustules on the body, especially on the face, hands, feet, in the mouth and on the genitalia)

while traveling or within 21 days of coming back from the travel, to refer **immediately** to any nearest health facility for a proper health assessment by a healthcare worker. One should inform the doctor of their recent travel history.

- iv. While having symptoms, to avoid contact with other person or sharing equipment or involved in any health-related donation activity such as donating blood/semen or any body organ/s.
- v. Avoid contact with wild animals, and consumption of bush meat.

Prepared by:

Disease Control Division
Ministry of Health Malaysia

4th of October, 2022

**Announcement in flight, cruise or ship from affected countries
before arrival to Malaysia**

**“ANNOUNCEMENT REGARDING HEALTH ALERT ON MPOX
OUTBREAK”**

Ladies and gentlemen, this is a health announcement with regards to mpox outbreak reported in several countries globally since May 2022.

If you are experiencing any of the following symptoms, please identify yourself and report to the health authority at the Point of Entry on arrival.

- High fever
- Swelling at the neck, axilla or groin area (lympadenopathy)
- Rashes, vesicles or pustules on the body, especially on the face, palms, hands, soles, feet, in the mouth and on the genitalia
- Severe headache, backache or muscle ache

This is a requirement by the Government of Malaysia under the provision of the Prevention and Control of Infectious Disease Act 1988 to prevent the spread of mpox infection.

Thank you for your kind attention and cooperation.”