Infection Control Recommendations for Monkeypox in Hospital Settings

10 June 2022

MS M Y KONG

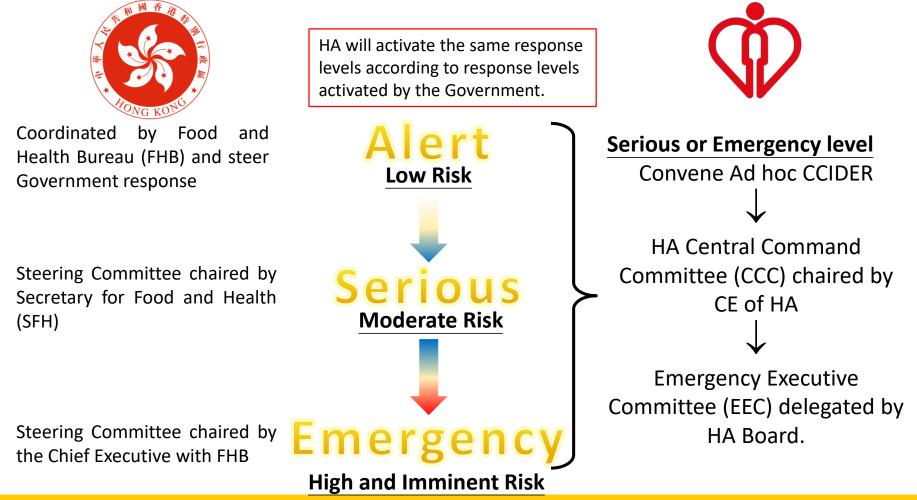
SNO, CICO OFFICE, HAHO



HA Preparedness for Monkeypox

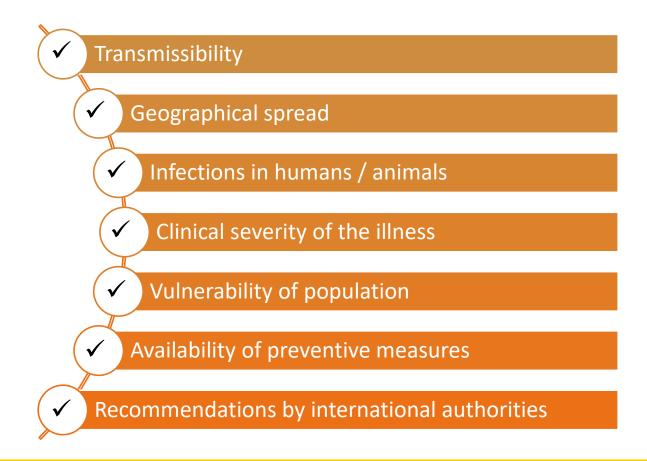
HA Preparedness Plan for Infectious Disease Pandemic

HA's response to infectious disease pandemic generally follows the HK Government response system. A 3-tier system is differentiated according to the risk of the infectious disease causing significant public health impact to HK.



Risk Assessment

- HK Government and HA's preparedness plans are based on a comprehensive <u>risk</u> <u>assessment</u>.
- Risk assessment can help to initiate the right response actions at the right time.
- Areas of concern in the risk assessment as follow:



Response Levels



Alert

- Situation where the immediate health impact in HK is **low**
- There is an imported human case and/or epidemiological linked cases or an imported animal case

Source:



Serious

- Risk of infectious disease causing serious health impact in HK is moderate
 - There is evidence of
 apparently unlinked
 sporadic cases/clusters of
 cases in the community
 or infected animals
 epidemiological linked to
 human or imported
 animal cases



Emergency

- Risk of infectious disease causing serious health impact in HK is high and imminent
- There is evidence of spread in a healthcare facility or imminent risk of sustained transmission in the community; finding of infected animals in the community which are not epidemiological linked to human cases or imported animal cases

Current risk assessment

>On 4 June 2022, the WHO assessed the public health risk at the **global level as moderate** considering this is the first time that many monkeypox cases and clusters are reported concurrently in nonendemic and endemic countries in widely disparate WHO geographical areas. (WHO)

The probability of monkeypox transmission to healthcare workers (HCWs) wearing appropriate personal protective equipment is very low, with the disease having an estimated low impact, leading to an overall low risk. (ECDC)

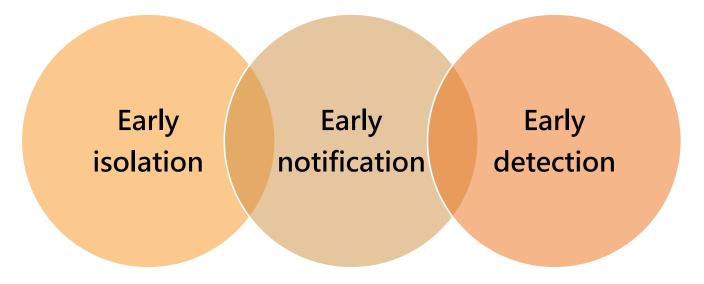
Sources:

- WHO Multi-country monkeypox outbreak: situation update https://www.who.int/emergencies/disease-outbreak-news/item/2022-DON390
- ECDC Monkeypox multi-country outbreak https://www.ecdc.europa.eu/sites/default/files/documents/Monkeypox-multi-country-outbreak.pdf

HA Preparedness for Monkeypox

- 1. HA Preparedness Plan for Monkeypox
- 2. HA Infection Control Plan for Monkeypox
- 3. Interim recommendation on clinical management of Monkeypox virus infection
- 4. Communication kit for Monkeypox
- 5. Thematic webpage
- 6. Staff forums

Bundle Approach



Case Reporting & Notification

Case reporting criteria for Monkeypox (Last updated on 10 Jun 2022)

Clinical criteria		Epidemiological criteria
 Presented with Unexplained acute rash AND one of the following signs / symptoms: Acute onset of fever (>38 °C) Chills and/or sweats New lymphadenopathy (periauricular, axillary, cervical, or inguinal) A case may be excluded if an 	AND	 Fulfilling (a), (b) or (c) within 21 days of illness onset: (a) History of travel to country where monkeypox is endemic ² OR (b) History of travel to non-endemic country with confirmed cases of monkeypox ³ Had contact with a person or people who have a similar appearing rash or received a diagnosis of confirmed or probable monkeypox; or Man who regularly has close or intimate in-person contact with other men OR (c) Contact with a dead or live wild animal or exotic pet that is
alternative diagnosis can fully explain the illness ¹		an African endemic species or used a product derived such animals (e.g., game meat, creams, lotions, powders, etc.)

1 According to WHO, common causes of acute rash include varicella zoster, herpes zoster, measles, Zika, dengue, chikungunya, 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. According to the Centers for Disease Control and Prevention of the United States, the rash associated with monkeypox can be confused with other diseases that are more commonly encountered in clinical practice (e.g., secondary syphilis, herpes, chancroid, and varicella zoster). Historically, there had been sporadic reports of patients co-infected with monkeypox virus and other infectious agents (e.g., varicella zoster, syphilis).

2 According to WHO, monkeypox endemic countries are: Cameroon, the Central African Republic, the Democratic Republic of the Congo, Gabon, Côte d'Ivoire, Liberia, Nigeria, the Republic of the Congo, and Sierra Leone. In Ghana, the monkeypox virus was identified in animals only. Benin and South Sudan have documented importations in the past. Countries currently reporting cases of the West African clade are Cameroon and Nigeria, and of the Congo Basin clade are Cameroon, Central African Republic and Democratic Republic of the Congo.

3 Please refer to the following hyperlink for latest list of non-endemic country with confirmed cases of monkeypox

Case classification for Monkeypox (Last updated on 10 Jun 2022)

Laboratory criteria

Any one of the following:

Isolation of monkeypox virus in culture from a clinical specimen; OR

Detection of unique sequences of viral DNA either by real-time polymerase chainreaction and/or sequencing from a clinical specimen.

Case Classification

Confirmed case

• A clinically compatible illness that is laboratory confirmed.

Suspected case

• A case that meets both the clinical and epidemiologic criteria.

Notification

Monkeypox is listed as a statutorily notifiable infectious disease under the Prevention and Control of Disease Ordinance (Cap 599) on 10 June 2022.

Clinicians should report any suspected or confirmed case to CENO of CHP and HAHO via NDORS, and call the Medical Control Officer (MCO) of CHP (Pager: 71163300 call 9179) immediately.

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	ed Infectious Disea	ses I	nfectious Diseases of	f Public Health Concerns	HA Internal F	Reporting DD/N	Ion-DD Reporting
0 🧼 Acute poliomyelitis	1 Cholera	Food poisoning			🛈 🍣 Rabies	0 🍣 Smallpox	0 🍣 Viral haemorrhagic fever
O Amoebic dysentery	0 CA-MRSA Infection	• Haemophilus influenzae type b infection (invasive)	0 Listeriosis	Novel influenza A infection Variant Influenza A (H3N2) Influenza A (H5) Influenza A (H7) Others	0 Relapsing fever	0 Streptococcus suis infection	0 Viral hepatitis
🛈 🍣 Anthrax	O COVID-19	Hantavirus infection	🛈 Malaria	Paratyphoid fever	Rubella / Congenital rubella syndrome	1 Tetanus	0 West Nile Virus Infection
Bacillary dysentery	O Creutzfeldt- Jakob disease	Invasive pneumococcal disease	1 Measles	🛈 🍣 Plague	0 Scarlet fever	1 Tuberculosis	() Whooping cough
🛈 🍣 Botulism	0 Dengue fever	 Japanese encephalitis 	Meningococcal infection (invasive)		🛈 🍣 sars	Typhoid fever	🛈 🍣 Yellow fever
	🛈 🍣 Diphtheria	Legionnaires'	Middle East Respiratory	0 O fever	Shiga toxin- producing Escherichia coli	Typhus / Other rickettsial	1) Zika Virus Infection

Effective on 10 June 2022 18:30

Laboratory diagnosis

Specimen should be sent to the PHLSB for Monkeypox virus PCR

- TAT for negative result: usually within next day
- TAT for preliminary positive result: may require up to two days for confirmation

Specimen types:

1 Dry swab in sterile container

AND / OR

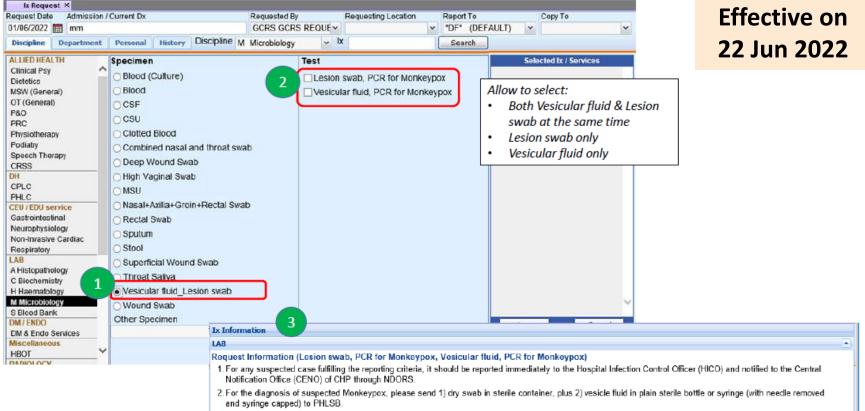
2 **Vesicle fluid** in plain sterile bottle or syringe (with needle removed and syringe capped)



Remark:

• Prior arrangement should be made with Microbiologist of PHLSB before sending of specimen.

GCRS Request for Monkeypox



3. Prior arrangement should be made with Microbiologist before sending of specimen.

Infection Control Measures

Patient Placement

Suspected or confirmed monkeypox cases should be placed in a single airborne infection isolation room (AIIR) en-suite with toilet facility (i.e. with negative pressure and at least 12 ACH)

Confirmed cases should not be nursed in the same room with suspected cases.

Confirmed cases should be centrally isolated and managed at Hospital Authority Infectious Disease Centre (HAIDC).

Isolation Precautions

- Monkeypox is considered to be mainly transmitted through respiratory droplets and direct contact with body fluids or lesion materials.
- A combination of **standard**, **contact**, **and droplet precautions** should be adopted for routine patient care. Because of the theoretical risk of airborne transmission of MPXV, **airborne precautions** should also be applied.
- PPE: Surgical respirator, eye protection (goggles / face shield), isolation gown, gloves, and cap (optional) for routine patient care and aerosol-generating procedures (AGPs)
- Isolation precautions should be maintained until all scabs have fallen off and new skin is present.

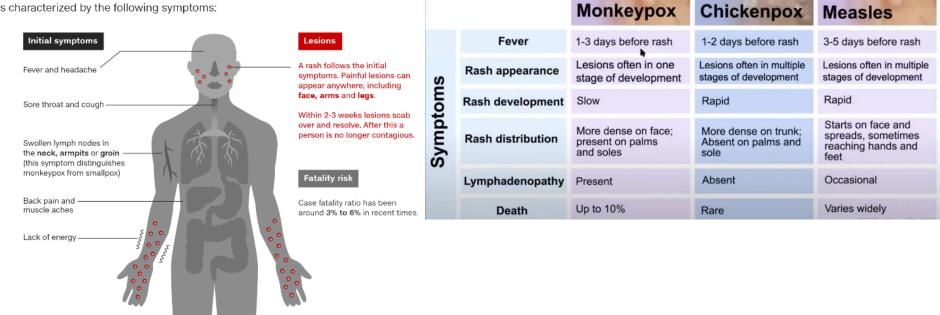




Monkeypox and other common skin rash illness

Monkeypox is a viral disease with symptoms similar to smallpox but clinically less severe

It is characterized by the following symptoms:

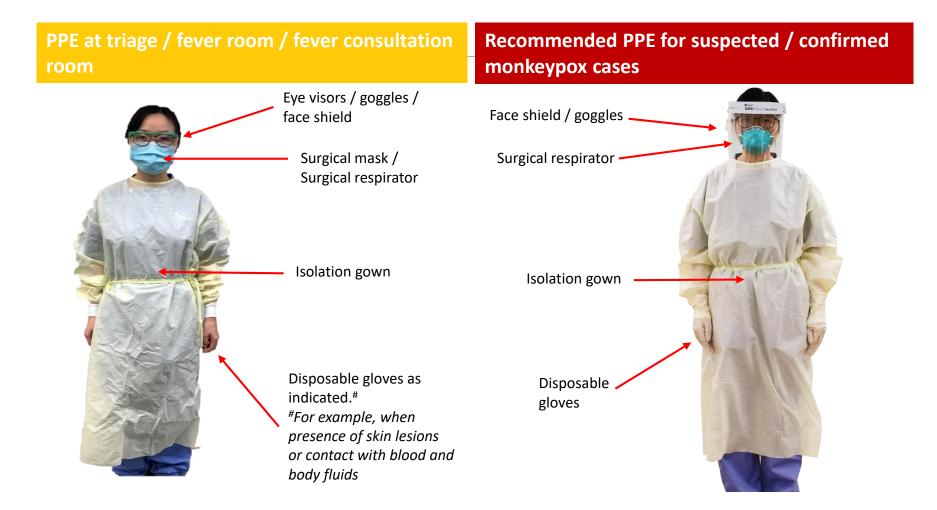


CNN Source: Centers for Disease Control and Prevention, World Health Organization Graphic: Natalie Leung, CNN

Sources:

https://www.gmanetwork.com/news/topstories/nation/832727/what-s-the-difference-between-monkeypox-chickenpox-and-measles/story/ https://edition.cnn.com/2022/06/02/health/monkeypox-endemic-silent-spread/index.html

Personal Protective Equipment (PPE)



Respiratory Protection Program for Healthcare Workers

Before initial use of surgical respirator respirator, fit test should be performed to select a suitable type, model and size of respirator for individual respirator user. Test results should be maintained according to local hospital protocol.

Qualitative Fit Test (QLFT) and Quantitative Fit Test (QNFT)

>Maintain Fit Test results record





*每次配戴外科呼吸器後,要做正壓及負壓密合檢查。 *Perform positive and negative seal check every time after wearing surgical respirator



正壓檢查:

以雙手遮著口罩,然後大力呼氣。 如空氣從口罩邊緣溢出,表示配戴 不當,必須再次調校頭帶。

負壓檢查:

以雙手遮著口罩,然後大力吸氣。 口罩中央會凹陷,如空氣從口罩邊 緣進入,表示配戴不當,必須再次 調校頭帶。在未將口罩校至適合位 置前,切勿進入空氣污染地區。

Positive Seal Check:

Place both hands completely over the respirator and exhale sharply. If air leaks around respirator edges, adjust the straps back along the sides of your head. Perform seal check again if an adjustment is made.

Negative Seal Check:

Place both hands completely over the respirator. Inhale sharply and the respirator will collapse slightly. If inward leakage of air is detected, the seal of the respirator is considered unsatisfactory. Reposition it by adjusting the straps. If you cannot achieve a proper seal, do not enter the contaminated area.

Repeat of Surgical Respirator Fit Test

Under the following circumstances, retest of fit test should be done:

- > A significant change on facial contour affecting the respirator fit
- > A significant increase or decrease in weight (10%)
- Change in facial structure or scarring due to dental work, cosmetic surgery or accidents
- When no supply of appropriate model or size of respirator
- Any other condition that may interfere with face-piece sealing

Patient Care Equipment

- Handle used/soiled patient-care equipment carefully to prevent skin and mucous membrane exposures, contamination of clothing, and transfer of microorganisms to other patients and environment
- Use disposable items when those items cannot be cleaned or disinfected properly
- Designate non-critical patient care equipment to the patients. If sharing is unavoidable, clean and disinfect with sodium hypochlorite solution 1,000 ppm after each patient use
- Respiratory therapy equipment require high-level disinfection. Central reprocessing is preferred based on local hospital policy. Wellpacked contaminated items before transfer to prevent environmental contamination

Environmental Control

➢ Poxviruses showed extraordinary resistance drying, increased temperature and pH tolerance when compared to other enveloped viruses. These characteristics strongly impact their environmental persistence: materials from infected patients (e.g. dermal crusts) or fomites (e.g. bed linens) remain infective for months to years.

Poxviruses are sensitive to common disinfectants, although they can be less sensitive to organic disinfectants compared to other enveloped viruses, due to their reduced envelop lipid content.

Clean and disinfect with sodium hypochlorite solution 1,000 ppm or 2-in-1 disinfectant at least daily, or whenever visibly soiled

Use 70% alcohol to disinfect metal surfaces

Clean and disinfect the immediate patient environment promptly after performing AGPs.

Perform terminal disinfection upon each patient discharge

Use hydrogen peroxide vapor (HPV) / ultraviolet C (UVC) for room disinfection after risk assessment by ICO and OSH teams

Linen Handling

- Monkeypox virus may spread through direct contact with body fluids or sores on an infected person or with materials that have touched body fluids or sores, such as clothing or linens.
- Contaminated clothing and linens should be washed at least 60°C cycle.
- All linen should be classified as infected linen. Linen bag should be secured with "infected linen" tag with information of the origin.
- > Avoid sorting linens in patient-care areas.
- Place linen into water soluble bag, then a laundry bag with minimal manipulation or agitation to avoid contamination of air, surfaces and persons.



Waste Management

- The majority of wastes arising from monkeypox cases such as PPEs, paper tissues, leftover food, meal boxes, and packing materials should be treated as general waste.
- The exceptions are those waste types defined as clinical waste in the Waste Disposal Ordinance including used or contaminated sharps, laboratory waste, human tissues and dressings (e.g. gauzes soaked with lesion fluid) which should be handled according to HA Operation Circular No. 14/2015 Implementation of Clinical Waste Management Plan (CWMP).

http://ha.home/circular2/Ops-2015-14.pdf

Use bedpan washer to clean and thermal disinfect the urinals and bedpans. If bedpan washer is not available, please consider to use the liner bag. After use, the contents are to be solidified with high-absorbency gel and then discarded as general waste.







Example: Bedpan liner

Cleaning of Spillage of blood, body fluids, or other potentially infectious materials

Clean the visible soils with disposable absorbent material and discard it into the appropriate waste bag

Mop the area with a cloth or paper towels wetted with sodium hypochlorite solution 10,000 ppm, leave for 10 minutes

>Then rinse with water and allow the area to air dry

70% alcohol can be used in metal surface if household bleach is contraindicated

Handling of Dead Body

>Handling and disposal of dead body according to Category 2

>Use YELLOW label

Follow the additional precautions as recommended in "Precautions for Handling and Disposal of Dead Bodies, 10th edition." <u>https://www.chp.gov.hk/files/pdf/grp-guideline-hp-ic-precautions_for_handling_and_disposal_of_dead_bodies_en.pdf</u>

	Danger of Infection 小心傳染				Category 類別			
9	In handling dead bodies, Standard Precautions are required. 處理屍體時需要採取標準預防措施。 In addition, the following precautions are also required: 此外,下列附加的預防措施亦必須採納:							
-	Bagging 入 入 <mark> </mark>	Viewing in funeral parlour 殯儀館內瞻仰遺容	Embalming 防腐處理	Hygienic preparation in funeral parlour 殯儀館內裝身及化妝				
	Must Allowed 必須 可以		Not allowed 不可以	plastic apro 可以,在	ith disposable gloves, water resistant gown / on over water repellent gown & surgical mask 显必須戴上用後即棄的手套、防水保護衣/ 抗水保護衣外加膠園裙和外科口罩			

Patient Transport

Limit patient transport to essential purpose only

>Wear appropriate PPE when handling patients

Provide surgical mask to patients during transportation if not contraindicated

Cover patients' lesion (e.g. long sleeves and pants) to the best extend possible for transport

Inform the receiving ward/ parties before patient transport to facilitate appropriate arrangement

Inform the administration to prepare the designated route for transport.
The involved area should be disinfected afterwards

Disinfect transport vehicles after use

Recommended visiting service policies in HA Hospitals

HK Gov't Response Systems		Alert Response Level	Serious Res	ponse Level	Emergency Response Level		
HA Response		Alert Response Level	Serious Response Level (S1)	Serious Response Level (S2)	Emergency Response Level (ERL)		
	Isolation wards	No visiting unless on compassionate ground					
Visiting hours	Other patient areas	Not more than 4 hrs per day, 2 persons at a time	Not more than 4 hrs per day, 2 persons at a time	2 hrs per day, 2 persons at a time			
Visiting hours	Convalescent hospitals	Not more than 6 hrs per day, 2 persons at a time	Not more than 6 hrs per day, 2 persons at a time	4 hrs per day, 2 persons at a time	No visiting in general or Subject to CCC's decision upon CCIDER's advice & supported by CHP		
Hand Hygiene	Hand Hygiene		Required				
Surgical Mask	Surgical Mask		Not required	Required in all patient areas	Required in all hospital areas		
Temperature check		Publicize the general public to take temperature check by themselves			Subject to CCC's decision upon CCIDER's advice & supported by CHP		
Registration					Subject to CCC's decision upon CCIDER's advice & supported by CHP		

Remarks:

• PPE for visitors should be available to the area of visit

• Health advice and information on proper infection control precautions should be available to visitors e.g. poster.

• Make arrangements for the provision of surgical masks and hand washing facilities and/ or hand rub within their hospitals and clinics.

Recommended volunteer services and clinical attachment in HA hospitals

Recommended volunteer services

HK Gov't Response Systems		Alert Response Level	Serious Response Level		Emergency Response Level
HA Response		Alert Response Level	Serious Response Level (S1)Serious Response Level (S2)		Emergency Response Level (ERL)
Volunteers for patient support services (including patient group activities)	High-risk areas [#]				
	Other patient areas	Allowed	Allowed under direct Chief Executive and Ho Tea	Suspended in general or Subject to CCC's decision upon CCIDER's advice & supported by CHP	
	Non-patient areas and Non-hospital settings		Allowed		

Recommended clinical attachment

HK Gov't Response Systems		Alert Response Level	Serious Response Level		Emergency Response Level
HA Response		Alert Response Level	Serious Response Level (S1) (S2)		Emergency Response Level (ERL)
Clinical Attachment medical students nursing students allied health students pharmacy students 	High-risk areas [#]		Not allowed		
	Other patient areas	Allowed	Perform risk assessment and act as appropriate		Suspended in general or Subject to CCC's decision upon CCIDER's advice & supported by CHP
	Non-patient areas and Non-hospital settings		Allowed		

Remarks:

• #High-risk areas refer to triage stations of Out-patient Clinics and Accident & Emergency department; fever rooms of Out-patient Clinics; designated clinics, isolation rooms (including isolation rooms in ICUs and AEDs); surveillance wards; and clinical laboratories.

• The high risk areas in clinical laboratories referred to Microbiology Laboratory (the particular bench with direct handling of relevant specimen), mortuaries (including autopsy rooms), rooms where frozen sections were performed and molecular laboratories where fresh clinical specimens were handled. (Endorsed in Directors' Meeting held on 14 January 2015)

Recommended other service providers in HA hospitals

HK Gov't Response Systems		Alert Response Level	Serious Res	ponse Level	Emergency Response Level
HA Response		Alert Response Level	Serious Response Level (S1)	Serious Response Level (S2)	Emergency Response Level (ERL)
 (I) Chinese Medicine 	High-risk areas#		Suspended in general or Subject to		
Practitioners	Other patient areas	Allowed	Perform risk assessment and act as appropriate		CCC's decision upon CCIDER's
from CMCTRs	Non-patient areas and Non-hospital settings		Allowed	advice & supported by CHP	
(II) Non-	High-risk areas#		No	ot allowed	
government organization	Other patient areas	Allowed	Allowed under directives give and Hospital Infect	Suspended in general or Subject to CCC's decision upon	
(NGO) and others	Non-patient areas and Non-hospital settings		Allowed	CCIDER's advice & supported by CHP	
	High-risk areas#	(Suspended in general or Subject		
(III) Honorary staff - Clinical	Other patient areas	Allowed	Allowed under directives give and Hospital Infect		to CCC's decision upon CCIDER's advice & supported
- Non-clinical	Non-patient areas and Non-hospital settings	Allowed			by CHP
	High-risk areas#	Only allowed on a case-by-case basis		Suspended in general or Subject	
(IV) Justice of peace (JP)	Other patient areas	Allowed	Allowed under directives give and Hospital Infect		to CCC's decision upon CCIDER's advice & supported
	Non-patient areas and Non-hospital settings	Allowed		by CHP	
(IV) Contract out staff for	High-risk areas#	Allowed Perform risk assessment and act as appropriate			propriate
essential services e.g.	Other patient areas	Allowed			
EMSD, cleaning staff	Non-patient areas and Non-hospital settings	Allowed			

Remarks:

• #High-risk areas refer to triage stations of Out-patient Clinics and Accident & Emergency department; fever rooms of Out-patient Clinics; designated clinics, isolation rooms (including isolation rooms in ICUs and AEDs); surveillance wards; and clinical laboratories.

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Staff Early Sickness Alert System (SESAS)

醫管局員工病徵速報 HA Staff Sickness Reporting

如出現以下病微·請通知你的上司以紀錄在職員初期病徵預警系統。 If you have the following symptoms, please inform your supervisor to record in Staff Early Sickness Alert System (SESAS).



For early detection and control of potentially communicable infectious diseases / outbreaks

Staff Early Sickness Alert System (SESAS) 職員初期病徵預警系統



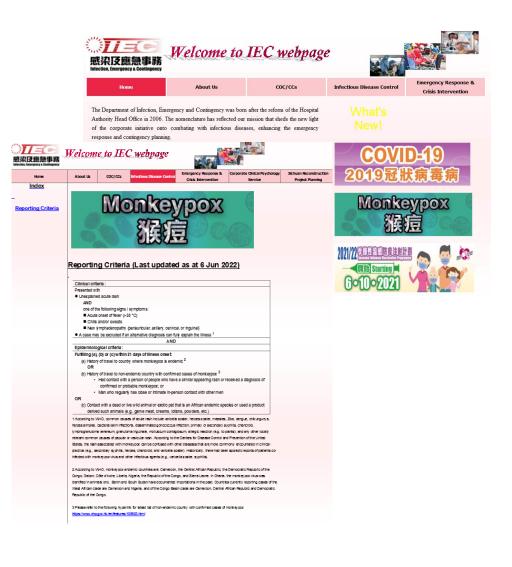
number bir le condipungese. 在轻荷做理中,「騙其發現」已取代了「答准身份證號碼」。為 工保險個人皆料私路,為其他人(胡相当)報告疾奇時,已不再聲

Risk communication

Enhanced Measures

Internal communication

- Thematic webpage
- Communication kit
- Staff forums



Thank you