CLINICAL INFECTION & PUBLIC HEALTH FORUM: UPDATE ON MIDDLE EAST RESPIRATORY SYNDORME (MERS)

SUMMARY OF INFECTION CONTROL MEASURES

Mr. SONY NY SO, Nursing Officer, ICB, CHP

Public Health Image Library (PHIL); Cynthia Goldsmith/Maureen Metcalfe/Azaibi Tamin

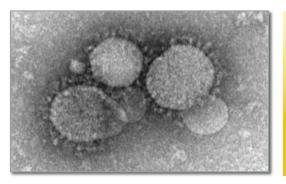
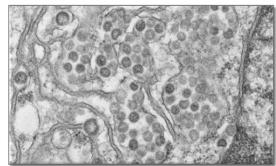




Image source: Public Health Image Library (PHIL) Maureen Metcalfe/Azaibi Tamin



Ist case Sept 2012, As at 16 May 2014



Countries in the Arabian Peninsula with Cases

Saudi Arabia Jordan

United Arab Emirates (UAE) Kuwait

Qatar Yemen

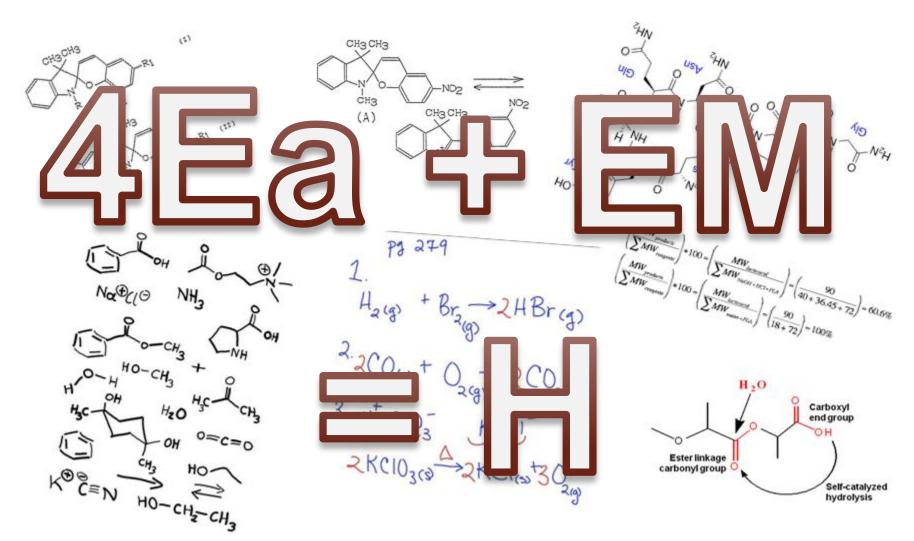
Oman Lebanon

Countries with Travel-associated Cases

United Kingdom (UK)
United States of America (USA)
Netherlands
France
Tunisia

Italy
Malaysia
Turkey
Greece
Egypt

Infection Control Strategy



Minimize Risk

Eliminate Hazards

Early Diagnosis

Early Isolation

Early Reporting

Early Identification



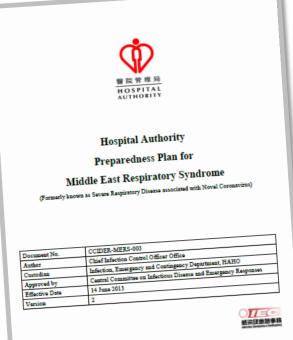


Ensure Robust Infection Control Management System is in Place; First & Foremost – Plan, Plan, Plan...



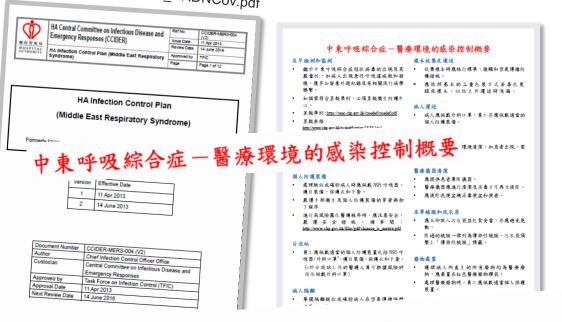


http://ha.home/ho/ps/IC_Plan_SRDNCov.pdf



Based on CCIDER discussion on 18 March 2013 and adopted after HA Proparedness Plan for Influenza Pandamic

http://ha.home/ho/ps/SRD_NC_Plan.pdf



中東呼吸綜合症的臨時感染控制建議(第五版)

中東呼吸綜合症的臨時威染控制建議 (第五版)

Relevant In-house Guide, Professional Guidelines, Ordinance, and Regulation

- CAP 599 Prevention and Control of Disease Ordinance 《預防及控制疾病條例》
- CAP 599A Prevention and Control Of Disease Regulation 《預防及控制疾病規例》
- CAP 354 Waste Disposal Ordinance 《廢物處置條例》
- CAP 3540 Waste Disposal (Clinical Waste) (General) Regulation

《廢物處置(醫療廢物)(一般)規例》





Surveillance And Epidemiology Branch

Statutory Notification & Updated Criteria of Middle East Respiratory Syndrome

Our Ref. : (10) in DH SEB CD/8/93/1 Pt.2

11 June, 2013

Medical practitioners are reminded to notify the Department of Health any suspected cases who reside in or have history of travel to the Arabian Peninsula or neighboring countries within 14 days before onset of illness to the Central Notification Office (CENO) of CHP via fax (2477 2770), phone (2477 2772) or CENO On-line (http://ceno.chp.gov.hk/). Please also call our Medical Control Officer at 7116 3300 a/c 9179 outside office hour for prompt investigation. Please kindly note that the updated reporting criteria are available on CENO On-line website (http://ceno.chp.gov.hk/).



case fatality rate of 56%. So far, no human cases of Middle East Respiratory Syndrome have been detected in Hong Kong. Nevertheless, WHO maintains that the disease represents a significant public health risk and recommends enhanced surveillance and precautions of suspected cases.

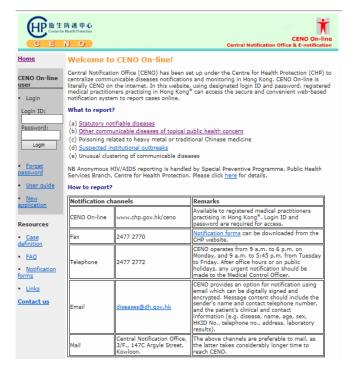
In addition, a recently published French study reported by WHO estimated that the incubation period of this disease was between nine and twelve days 1. We

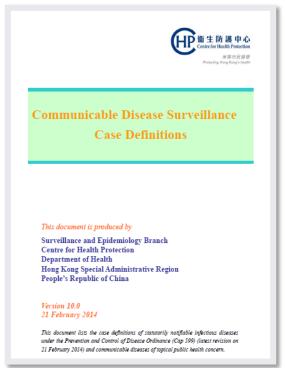
(Dr. SK CHUANG) for Controller, Centre for Health Protection Department of Health

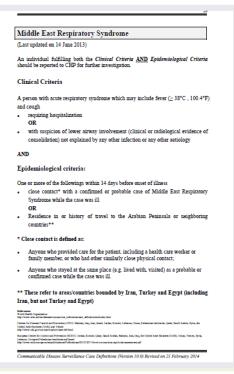
Guery B, et al. Clinical features and viral diagnosis of two cases of infection with Middle East Respiratory Syndrome coronavirus: a report of nosocomial transmission. Lancet. Published online 29 May

Communicable Disease Surveillance Case Definitions









Central Notification Office (CENO) https://ceno.chp.gov.hk/index2.jsp

Statutory Notification – Reporting Criteria

Clinical Criteria

A person with acute respiratory syndrome which may include fever (≥ 38°C, 100.4°F) and cough

- requiring hospitalization

OF

- with suspicion of lower airway involvement (clinical or radiological evidence of consolidation) not explained by any other infection or any other aetiology

Epidemiological Criteria

AND

One or more of the followings within the last 14 days before onset of illness

- close contact* with a confirmed or probable case of Middle East Respiratory Syndrome while the case was ill

OR

- residence in or history of travel to the Arabian Peninsula or neighboring countries**

Close contact is defined as:

- anyone who provided care for the patient, including a healthcare worker or family member, or who had other similarly close physical contact;
- anyone who stayed at the same place (e.g. lived with, visited) as a probable or confirmed case while the case was ill.
- ** These refer to areas/countries bounded by Iran, Turkey and Egypt (including Iran, but not Turkey and Egypt)

Countries Considered in the Arabian Peninsula and Neighboring







- Bahrain 巴林
- Iraq 伊垃克,
- Iran 伊朗
- Israel 以色列
- Jordan 約□
- Kuwait 科威特
- Lebanon 黎巴嫩
- Oman 阿曼
- Palestinian territories
 巴勒斯坦地區.
- Qatar 卡塔爾
- Saudi Arabia 沙地阿拉伯
- Syria 敘利亞
- United Arab Emirates (UAE)
 阿聯酋
- Yemen 也門

Reporting channel

An individual fulfilling both the Clinical Criteria AND Epidemiological Criteria should be reported to the Central Notification Office (CENO) of CHP via

fax (2477 2770) using the reporting form phone (2477 2772) or CENO On-line (http://ceno.chp.gov.hk/).

Call Medical Control Officer (MCO) at 71163300 a/c 9179 outside office hour)

英文姓名:	中文姓名:	年動/性別:	身份值	護別號略:
住址:			電話號	7.
			(任宅)	
工作地點/ 就讀學校之名稱及地址:			(手提)	1.
Maria I de la company de la co			(89/2):9	W/學校/其他):
職位/就讀班級:			-	
被退往的醫院/ 診療所 (如有的話):			整形 5	2位至編號:
(A) (教育的///	(日期:日/月	(年) 患上以下疾病 [Y 7	
□ 急性脊髓灰質炎(小兒麻痹)		电感嗜血桿菌联染(役)		900年
□ 阿米巴爾疾 □ 炭疽	□ 選坦!			・ 概乘急性呼吸系統綜合症・ 產売貿费素大腸桿菌或染
□ 探筋密収	□ 結63			天花
□ 内毒中毒		B/A39	- 1	新疆球菌或染
□水痘	□ \$999.5	TO MIS		被傳媒
□ 基孔前独称	□ ###			傷寒
□ 電影	□ 療疾		4.1	既結傷寒及其他立克次體
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□ 克雅二氏症		THE PARTY AND		何毒性出血熱
□ 登革勲	□ 中東2	P吸综合症		何毒性肝炎
自解	口 表衍	生態服炎	_	西尼羅河病毒威染
□ 粉何毒71型城沿		甲型流行性眩冒		11 118
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章: 599A 🕶 標題: 《預防及控制疾病規例》 憲報編號: E.R. 1 of 2012

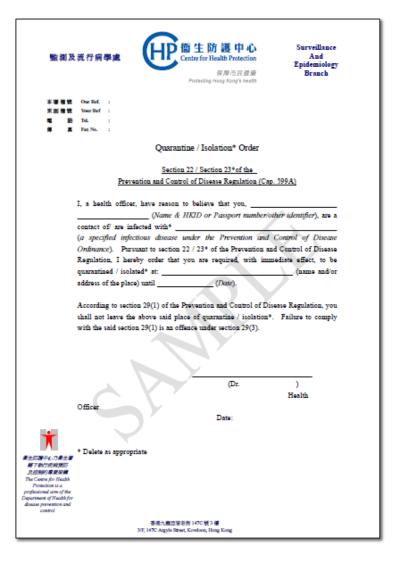
條: 22 條文標題: **傳染病接觸者的檢疫** 版本日期: 09/02/2012

人的檢疫及隔離

(1) 如衞生主任有理由相信,某人是傳染病接觸者,該衞生主任可藉書面命令,對該人作檢疫,直至一

- (a) 衞生主任認為該人不再具傳染性為止;或
- (b) 衞生主任認為該項檢疫可由醫學監察代替為止。
- (2) 在不局限第(1)款的原則下,任何以下情況視為衞生主任相信某旅客是傳染病接觸者的理由一
 - (a) 該旅客沒有按衞生主任根據第19(1)條作出的要求,而出示疫苗接種或預防措施證書以供查閱;
 - (b) (不論疫苗接種或預防措施證書是否已根據第19(1)條被出示以供查閱)衞生主任有理由相信,該 旅客未就某指定疾病接種疫苗或接受預防措施;
 - (c) (不論疫苗接種或預防措施證書是否已根據第19(1)條被出示以供查閱)衞生主任有理由相信,該 旅客所接種的疫苗或接受的預防措施屬無效。

Quarantine and Isolation Order



監測及流行病學處



Surveillance And Epidemiology Branch

保障市民健康 Protecting Hong Kong's health

平者循號 Our Ref. : 來函檔號 Your Ref : 電 話 Tel. : 傳 真 Fax No. :

Quarantine / Isolation* Order

Section 22 / Section 23*of the

Prevention and Control of Disease Regulation (Cap. 599A)

I, a health officer, have reason to believe that you,				
(Name & HKID or Passport number/other identifier), are a				
contact of/ are infected with*				
(a specified infectious disease under the Prevention and Control of Disease				
Ordinance) Pursuant to section 22 / 23* of the Prevention and Control of Disease				

Provide Most Updated MERS Information

Press Releases

新聞公報

簡体版 | English | 寄給朋友 | 政府新聞網

衛生署密切監察美國一宗中東呼吸綜合症懷疑個案

衛生署今日(五月十八日)正密切監察美國一宗中東 呼吸綜合症懷疑個案,並呼籲市民保持警覺,外遊時保 持良好個人、食物及環境衛生。

根據美國疾病控制及預防中心,該宗懷疑個案涉及一名居於伊利諾州的男子,他最近沒有外遊。他曾與美國在五月二日確診的首宗中東呼吸綜合症輸入個案的印第安那州病人有兩次接觸,當時首宗個案的病人並未確診。當地衛生部門在進行跟進調查時,聯絡該名伊利諾州男子並進行測試,五月十六日的實驗室測試結果發現他有中東呼吸綜合症冠狀病毒的抗體。

Letters to Doctors

Protecting Hong Kong's healt.

監測及流行病學處



Surveillance And Epidemiology Branch

水 署 権 映 Our Ref. : (29) in DH SEB CD/8/93/1 Pt.2

16 May 2014

Dear Doctors,

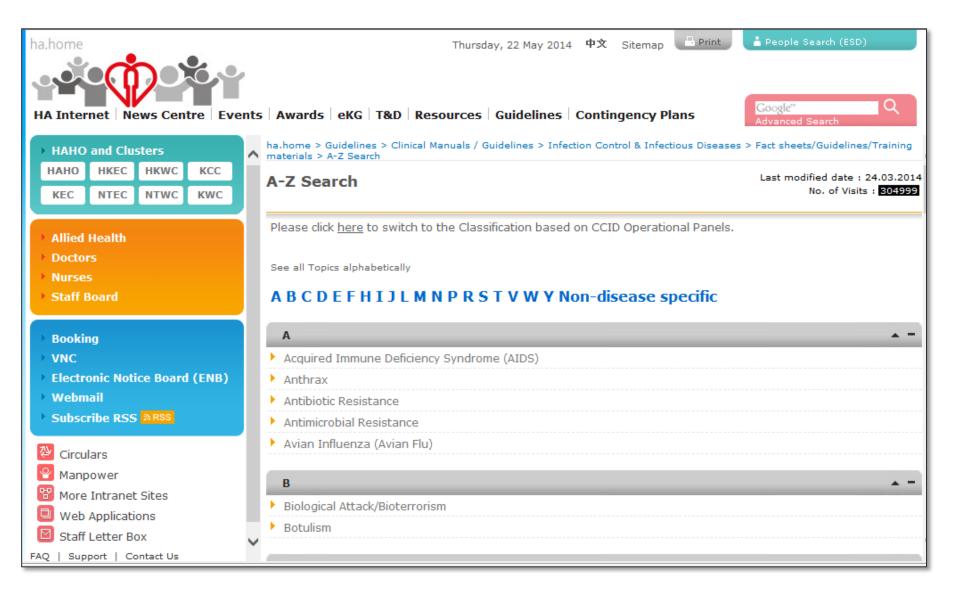
Updated Global Situation of Middle East Respiratory Syndrome

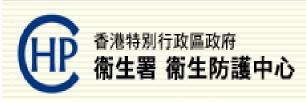
In view of the marked upsurge in the number of Middle East Respiratory Syndrome (MERS) cases reported to the World Health Organization (WHO), I would like to update you on the latest global situation of MERS.

The number of laboratory-confirmed MERS cases reported to WHO has sharply increased since mid-March 2014, essentially in the Kingdom of Saudi Arabia (KSA) and the United Arab Emirates (UAE), where healthcare-associated outbreaks have been occurring. The number of cases who acquired the infection presumably from non-human sources (i.e., patients who had not reported contacts with other laboratory-confirmed cases) has also increased since mid-March. Some of these primary cases have reported contacts with animals, including camels.

Since April 2012, 572 laboratory-confirmed cases of human infection with Middle East Respiratory Syndrome Coronavirus (MERS-CoV) have been reported to WHO, including 173 deaths. Among the 572 cases, 554 cases (96.9%) were confirmed in the Middle East. For the remaining 18 cases reported by countries outside the Middle East, all had a link to the Middle East, either through recent travel to the region or exposure to a patient who acquired infection in the region.

HAHO CICO Website





GOVHK 香港政府一站通 简体版 ENGLISH

主頁

關於我們

科學顧問架構

風險傳達顧問小組

健康資訊

健康統計數字

指引及給院舍的信

報告及刊物

感染控制須知

傅媒天地

培訓及活動

網上資源

其他語言

相關連結聯絡我們

衛生署

衛生防護中心乃衛生署 轄下執行疾病預防 及控制的專業架構 市民

醫護專業

院舍及學校

業界及工作場所

主頁 > 専題報導

中東呼吸綜合症

Middle East Respiratory Syndrome

前稱「新型冠狀病毒致嚴重呼吸系統病」

formerly known as

'Severe Respiratory Disease associated with Novel Coronavirus'

- 健康資訊
- 新聞稿
- 給醫生的信
- 給中醫師的信
- 給院舍的信
- 給其他界別的信

- 指引
- 市民
- <u>醫護專業</u>
- 院舍及學校
- 業界及工作場所

新發現及動物傳染病科學委員會 - 討論文件 / 建議

培訓/簡介

- 感染控制培訓課程 中東呼吸綜合症感染控制的基本原則及運用 (二零一三年六月)
- 健康教育資源
- 旅遊情報

相關連結

- Hong Kong Training Portal on Infection Control and Infectious Disease (只備英文版)
- 世界衛生組織
- 英格蘭公共衛生局 (只備英文版)



Hong Kong Training Portal on Infection Control and Infectious Disease

香港感染控制及傳染病培訓網上通



This Site: Hong Kong Training 🗸



IDCTC IEC IDC CICO CHP HA

Hong Kong Training Portal on Infection Control and Infectious Disease > webpages > Middle East Respiratory Syndrome

Middle East Respiratory Syndrome

Middle East Respiratory Syndrome

IEC webpage on the Middle East Respiratory Syndrome

CHP webpage on the Middle East Respiratory Syndrome

Publications and Information from International Agencies

May 2014

- Infection prevention and control of epidemic- and pandemic-prone acute respiratory infections in health care: WHO guidelines. Geneva: World Health Organization; April 2014
- . WHO statement on the Fifth Meeting of the IHR Emergency Committee concerning MERS-CoV. WHO Statement. 14 May 2014
- Middle East respiratory syndrome coronavirus (MERS-CoV) summary and literature update as of 9 May 2014. Geneva: World Health Organization; 9 May 2014
- Frequently Asked Questions on Middle East respiratory syndrome coronavirus (MERS-CoV). Geneva: World Health Organization; 9 May 2014
- WHO concludes MERS-CoV mission in Saudi Arabia. Cairo: WHO Regional Office for the Eastern Mediterranean; 7 May 2014
- WHO experts probe Middle-Eastern respiratory syndrome coronavirus (MERS-CoV) in Jeddah, Saudi Arabia, Geneva; World Health Organization; 2 May 2014

April 2014

- WHO risk assessment: Middle East respiratory syndrome coronavirus (MERS-CoV). Geneva: World Health Organization; 24 April 2014
- Cotten M, Watson SJ, Zumla Al, Makhdoom HQ, Palser AL, Ong SH, et al. Spread, circulation, and evolution of the Middle East respiratory syndrome coronavirus. MBio. 2014;5(1).

March 2014

Middle East respiratory syndrome coronavirus (MERS-CoV) summary and literature update - as of 27 March 2014. Geneva: World Health Organization; 27 March 2014

February 2014

Chu DKW, Poon LLM, Gomaa MM, Shehata MM, Perera RAPM, Zeid DA, et. al. MERS coronaviruses in dromedary camels, Egypt. Emerg Infect Dis; 2014 Jun; 20(6) [Epub ahead of print].

http://icidportal.home/sites/en/default.aspx







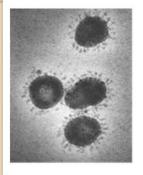
Regular Updated Training PowerPoint



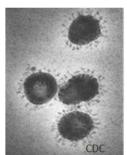
Infectious Disease Control Training Centre 傳染病控制培訓中心

中東呼吸綜合症 (MERS)

二零一四年五月二十二日



衛生署 衛生防護中心 感染控制處



Middle East Respiratory Syndrome (MERS)

As of 22 May 2014

Prepared by

Infection Control Branch, Centre for Health Protection, Department of Health

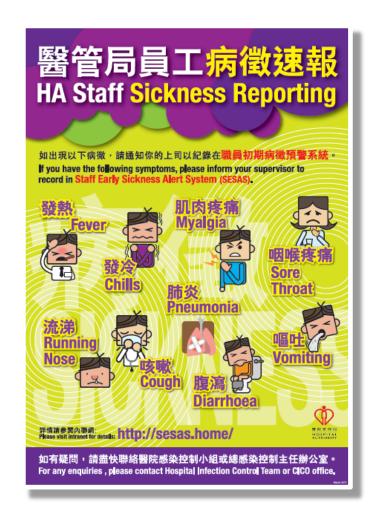




Staff Early Sickness Alert System (SESAS)

職員初期病徵預警系統

- Systemic symptoms include fever (temperature equal or higher than 38°C / 100.4°F), chills (physical shivering of the body at room temperature), myalgia (muscle soreness and pain), and rash (e.g., maculopapular rash, vesicular rash).
- Respiratory symptoms include sore throat (burning sensation of throat), running nose (watery secretion from nasal cavity), dry cough, productive cough, and pneumonia.
- Gastrointestinal symptoms (in association with gastroenteritis) include diarrhoea (passed loose to watery stool two times or more per day), vomiting (vomit two times or more per day) and nausea.



Promotion, Development and Maintenance of Infection Control Awareness





Enhancing Hand Hygiene Compliance - Visitors



- 1. mini- speaker with USB memory stick are locked inside the container
- 2. The container is sticked strongly onto table.



Respiratory Hygiene and Cough Etiquette

Patients, family members, and visitors can be partners in preventing transmission of infections

after sneezing or coughing



遮掩口鼻有禮

打噴罐或該歐詩要掩著□和鼻 Cover nose and mouth while sneezing or coughing



佩戴口罩有禮

如有呼吸道感染,應偶戴口罩 Put on a surgical mask while having a respiratory infection



Prompt Triage of high risk patients

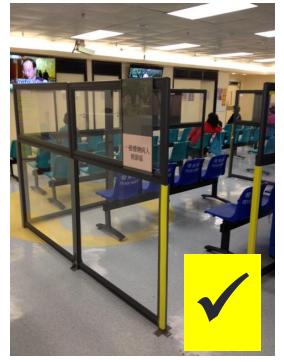
Segregate in separate waiting areas/ consultation rooms as far as feasible, with following control measures:



- Physical separation
- Optimize air exchange by engineering control or local exhaust fan
- Surgical mask for all segregated patients
- Allow minimum number of accompanying person
- Minimize unnecessary patient movement

Early Identification









HA Extending Case Finding for MERS-CoV

Period:

with effective from 14 June 2013

Inclusion criteria:

Any patients with chronic underlying conditions who develop diarrhoea and who have been in the Arabian Peninsula or neighbouring countries in the preceding 14 days

Actions Required:

- Patients fulfilling the above inclusion criteria would be admitted for Airborne Isolation.
- notify CHP via NDORS immediately and phone MCO of CHP at 7116 3300 call 9179 and HODO at 7116 3328 call 999.
- Appropriate specimen(s), including the stool sample should be taken and sent to PHLC of CHP for testing of MERS-CoV.
- For any case-related enquiries, please consult on call microbiologist in your hospital.

Extended Laboratory Surveillance for Middle East Respiratory Syndrome Coronavirus (MERS-CoV)

Period:

11 November 2012 – 28 May 2014 (subsequently with review)

Inclusion criteria:

Any pneumonia cases:

- with unknown causes (not responding to treatment in 3 days); or
- requiring ICU care; or
- occurring in clusters; or
- in health care workers

irrespective of their travel history

Actions Required:

- Specimen to PHLC for RT-PCR for MERS-CoV.
- Specify "Testing for MERS-CoV" on the laboratory request form.
- Cases with positive results of MERS-CoV should be isolated in AIIR AND the case reported to NDORS immediately.
- For any related enquiries, please consult the local microbiologist in your hospital.

Heating, Ventilation, and Air-Conditioning (HVAC) Maintenance





 Demarcate the degowning zone in the Decontamination Room away from the entrance door where there was air turbulence.
 For example,

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- 410	1000	1000		HS 1 1 4 APE 2008		
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		Denurcate the degenering zon in the Disconstitution Roses sawsy from the entrained dos where there was air turbulence For example.		I regign was profession as the later observed one care abouting a registration which has play a requestion of profession and health engineering. If a 1,55,500 m, a registration of profession is a 1,55,500 m, and the registration of the registration and the standard for the indicate and the registration are not have recovered energy and of pass exact place and you was about to indicate your enterpolation and you was about the indicate your enterpolation and you was about the indicate your enterpolation and you was about the indicate your enterpolation and you device appropriate valve appropriate such as the profession and the device appropriate valve ap		
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8	11362131	ice in respect of these mattern is being remails to - 10 to the control of 10 to				
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				(Ma-Elbeita PO) Occupational temporari		





HVAC Test Records

設施管理部

生效日期	: 13/07/2010	修正版本編號	: 2	 	
檔案編號	: WI-AC-03\F02-	頁數	: 1	 	

抽風系統檢查記錄 WI-AC-03\F02

Location: FG fever room Temp: 32 C R.H.: 57% Date: 4/6/2012

Time: 15:50

A) Physical Check

	Items	Unit	Design data	Result
1	Checked differential pressure	Pa	7	
2	Checked pressure lamp(s)			
3	Smoke test			tissue test D.K
4	Checked stabilizer(s)			/
5	Checked laminar flow	m/s	0.2 - 0.25	
6	Air change rate per hour	ACH	12	>12
7	Total flow rate	m³/s	0.4	0.35

Handling Suspected / Confirmed Cases

- Placement: Airborne Infection Isolation Rooms (AIIRs) i.e. with negative pressure and at least 12 ACH, en-suite with toilet facility.
- IC Precautions: Standard, Contact, Droplet and Airborne precautions.
- Prompt Diagnosis: collect respiratory tract specimens (lower tract specimen preferred) for molecular testing.

















Standard Precautions Elements

- Hand Hygiene
- Patient Placement & Transportation
- Percutaneous (Sharps) Injury & Mucosal Exposure
- Decontamination Patient Care
 Equipment/Devices
- Housekeeping & Environment
- Personal Protective Equipment (PPE)
- Linen Management
- Respiratory Hygiene and Cough Etiquette
- Clinical Waste











Personal Protective Equipment (PPE)

Handling of suspected case at triage station:

- N95 respirator, eyes protection, gown and gloves
- Surgical mask could be an alternative for triage stations based on nature of encounter upon risk assessment

Care suspected / confirmed case:

- N95 respirator, eyes protection, gown and gloves
- Enhance alertness when performing high-risk aerosol-generating, e.g. endotracheal intubation, CPR, open suction etc.
- http://www.chp.gov.hk/files/pdf/ic_matrix.pdf





Respiratory Protection Program



Used Linen & Clinical Waste Management

Linen Handling

- Pack on site and avoid shaking. Label as infected linen.
- Send to laundry for reprocessing

Waste Management

- All waste from suspected or confirmed novel coronavirus patients are classified as clinical waste (red bag)
- Staff removing wastes should wear appropriate PPE.





Code of Practice for the Management of Clinical Waste

Major Clinical Waste Producers and Waste Collectors

(Published under Section 35 of the Waste Disposal Ordinance)

Group 4 - Infectious Materials

Infectious materials from patients with the following pathogens - Crimean/Congo haemorrhagic fever, Ebola, Guanarito, Hendra, Junin, Kyasanur forest disease, Lassa fever, Machupo, Marburg, Nipah, Omsk, Russian spring-summer encephalitis, Sabia, Variola viruses; Herpesvirus simiae (B virus); and Severe Acute Respiratory Syndrome Coronavirus. Any materials contaminated by the above infectious materials are also classified as Group 4 waste.

Note: The Director may, by notice published in the Gazette, amend the list of pathogens under this group.

Standard Precautions

Transmission Based Precautions – Contact Precautions

- PPE Gown and gloves
 - Don upon entry to room, or within 3 feet to patient
 - Remove and discard before leaving the room
 - Perform hand hygiene after removal
- Patient care equipment
 - Use dedicated equipment e.g., stethoscopes,
 - Disinfect before use on other patients







Environmental Cleaning

- Decontaminate environment diluted bleach 1,000ppm, particular high—touch areas, at least twice daily or when visibly soiled.
- Terminal disinfection.
- Further enhancement of cleaning frequency should be advised by ICT.











Emergency Preparedness – Specimen Spillage

- Triple Packaging System
 - primary container
 - carrying pocket of the zip-lock plastic bag
 - outer container or packaging/box
- Transport Boxes with Warning Label









External Transportation



Emergency spill control equipment





Internal Transportation

When patient discharge, AIIR should remain vacant for the appropriate time depending on the Air changes per hour (ACH) in the room

TABLE 1. Air changes/hour (ACH) and time required for airborne-contaminant removal efficiencies of 99% and 99.9%

ACH	Time (min) required for removal efficiency of 99%	Time (min) required for removal efficiency of 99.9%
2**	138	207
4	69	104
6	46	69
8	35	52
10	28	41
12	23	35
15	18	28
20	14	21
50	6	8

Sources: CDC. Guidelines for preventing the transmission of Mycobacterium tuberculosis in health-care facilities. MMWR 1994;43(No. RR-13).

Dead Body Handling



Small size: 150 µm thick X 40" W X 44" L



Large size: 0.15 X 40" W X 88" L







Case Referral from Private Hospitals to HA Hospitals

Cluster coordinator would arrange case admission to isolation ward.
 List of HA's cluster coordinators:

Cluster	Contact persons	Details
HKEC	Ms Lily Chow	2291 1366 or 7328 7084
	Ms Ida Yip	6460 0567
HKWC	A&E nursing staff in-charge /Dr. Vincent Cheng (back up)	2255 3709
KEC	UCH A&E nurse in-charge	3513 4125
	Dr Kitty Fung (back up)	7323 9228
KWC	HAIDC S12 - Adult case master ward	2990 3024
	HAIDC S8 – Paed Case master ward	2990 2950
KCC	Dr. Johnny Chan / Dr. TC Wu	QEH operator 2958 8887
NTEC	PWH AED Nurse in charge	2632 6100
NTWC	Mr. C H Kan	7116 3228 # 2377
	Dr TL Que (back up)	7116 3228 # 6686

Minimize Risk

Eliminate Hazards

Early Diagnosis

Early Isolation

Early Reporting

Early Identification



