KETUA PENGARAH KESIHATAN MALAYSIA
DIRECTOR GENERAL OF HEALTH MALAYSIA
Kementerian Kesihatan Malaysia
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Pusat Pentadbiran Kerajaan Persekutuan
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KKM.600-29/4/133 (13)

Tarikh: 24 November 2015

SENARAI EDARAN

YBhg. Datuk / Dato' / Datu / YB Dato' / To' Puan / Tuan / Puan,

KEMASKINI *GUIDELINE ON MIDDLE EAST RESPIRATORY SYNDROME* (MERS) *MANAGEMENT IN MALAYSIA*

Dengan segala hormatnya perkara di atas adalah dirujuk dan Surat Edaran Ketua Pengarah Kesihatan ruj (7) dlm. KKM-171/BKP/16/71/1051 Jld. 3 bertarikh 12 Jun 2015 adalah berkaitan.

2. Sebagaimana YBhg. Datuk / Dato' / Datu / YB Dato' / To' Puan / Tuan / Puan sedia maklum, jangkitan MERS telah dilaporkan berlaku di beberapa buah negara dan ianya dimaklumkan oleh pihak Pertubuhan Kesihatan Sedunia (WHO) semenjak September 2012. Sehingga 10 November 2015, sejumlah 1,618 kes MERS yang disahkan melalui ujian makmal telah dilaporkan dari seluruh dunia, meliputi 579 kematian.

3. Mengambilkira perkembangan semasa yang meliputi penamatan wabak MERS yang melanda Republik Korea dan tamatnya tempoh pemantauan ke atas para jemaah haji yang pulang selepas menunaikan haji bagi musim haji 2015M / 1436H serta pelaporan penularan aktif MERS yang masih berlaku di Arab Saudi, terdapat keperluan untuk dokumen terdahulu dikemaskini. Pengemaskinian dokumen MERS tersebut adalah penting bagi memastikan pencegahan dan tahap kawalan penyakit berkaitan di Malaysia sentiasa berada di tahap yang optima.

4. Sehubungan itu, YBhg. Datuk / Dato' / Datu / YB Dato' / To' Puan / Tuan / Puan adalah diminta untuk merujuk kepada dokumen bertajuk *Guideline on Middle East Respiratory Syndrome (*MERS*) Management In Malaysia* seperti yang dilampirkan untuk maklumat selanjutnya.

5. Dokumen ini akan dikemaskini dari semasa ke semasa berdasarkan maklumat yang diperolehi daripada pihak WHO. Sekiranya terdapat

sebarang pertanyaan lanjut berhubung perkara ini boleh dikemukakan kepada para pegawai berikut:

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6. Kerjasama pihak YBhg. Datuk / Dato' / Datu / YB Dato' / To' Puan / Tuan / Puan adalah amat diperlukan bagi memaklumkan perkara ini dan mengedarkan dokumen ini untuk kegunaan anggota lapangan di bawah seliaan YBhg. Datuk / Dato' / Datu / YB Dato' / To' Puan / Tuan / Puan dan di fasiliti kesihatan swasta.

7. Sila ambil maklum dan beri perhatian bahawa dokumen '*Guideline on Middle East Respiratory Syndrome (*MERS) *Management In Malaysia'* ini berkuatkuasa serta merta dari tarikh surat ini dikeluarkan. Perhatian dan kerjasama yang diberikan oleh pihak YBhg. Datuk / Dato' / Datu / YB Dato' / To' Puan / Tuan / Puan adalah amat dihargai dan didahului dengan ucapan terima kasih.

Sekian.

" BERKHIDMAT UNTUK NEGARA "

Saya yang menurut perintah,

(DATUK DR. NOOR HISHAM BIN ABDULLAH)
Ketua Pengarah Kesihatan Malaysia

s.k.

Timbalan Ketua Pengarah Kesihatan (Kesihatan Awam)

Timbalan Ketua Pengarah Kesihatan (Perubatan)

Timbalan Ketua Pengarah Kesihatan (Penyelidikan & Sokongan Teknikal)

SENARAI EDARAN

Pengarah
Bahagian Kawalan Penyakit

Pengarah
Bahagian Perkembangan Perubatan

Pengarah
Bahagian Pembangunan Kesihatan Keluarga

Pengarah
Institut Penyelidikan Perubatan (IMR)

Pengarah
Makmal Kesihatan Awam Kebangsaan Sg. Buloh, Selangor

Pengarah
Jabatan Kesihatan Negeri Perlis

Pengarah
Jabatan Kesihatan Negeri Kedah

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Jabatan Kesihatan Negeri Pulau Pinang

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Jabatan Kesihatan Negeri Perak

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Jabatan Kesihatan Negeri Selangor

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Hospital Kuala Lumpur

Pengarah
Institut Kanser Negara

Pengarah
Pusat Darah Negara

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Guidelines On Middle East Respiratory Syndrome (MERS) Management In Malaysia

MERS: THE CASE DEFINITIONS

1. Patient under investigation (PUI) for MERS

a) A person with an acute respiratory infection, with history of fever and cough and indications of pulmonary parenchymal disease (e.g. pneumonia or ARDS), based on clinical or radiological evidence, who within 14 days before onset of symptoms has history of residing in / travel from the Middle East / other affected countries* with active transmission of MERS.

Note: *Clinicians should be alert to the possibility of atypical presentations in patients who are immunocompromised.*

** Countries in which there are reported active transmissions of MERS are updated on the WHO website http://www.who.int/emergencies/mers-cov/en/*

b) Individuals with acute respiratory illness of any degree of severity who within 14 days before onset of illness had any of the following exposures:

i. close physical contact[1] with a confirmed or probable case of MERS infection, while that patient was ill; **or**

ii. visiting / staying in a healthcare facility, where hospital associated MERS outbreak have been reported; **or**

iii. direct contact with dromedary camels or consumption or exposure to dromedary camel products (raw meat, unpasteurized milk, urine) in countries where MERS is known to be circulating in dromedary camel populations or where human infections occurred as a result of presumed zoonotic transmission.

c) A person with an acute respiratory infection, with history of fever and cough and indications of pulmonary parenchymal disease (e.g. pneumonia or ARDS), based on clinical or radiological evidence, who requires admission to hospital, with no other etiology that fully explains the clinical presentation and he / she is part of a cluster[2] of severe acute respiratory illness (e.g. fever, and pneumonia) of unknown etiology in which MERS is being evaluated, in consultation with state and local health departments in Malaysia.

[1] Close physical contact is defined as:

- *Health care associated exposure, including providing direct care for MERS patients, working with health care workers infected with MERS, visiting patients or staying in the same close environment of a MERS patient while not wearing recommended personal protective equipment (i.e. gowns, gloves, respirator, eye protection);*
- *Working together in close proximity or sharing the same classroom environment with a MERS patient;*
- *Traveling together with MERS patient in any kind of conveyance;*
- *Living in the same household as a MERS patient.*

The epidemiological link may have occurred within a 14-day period before or after the onset of illness in the case under consideration.

[2] A cluster is defined as two or more persons with onset of symptoms within the same 14 day period and who are associated with a specific setting, such as a classroom, workplace, household, extended family, hospital, other residential institution, military barracks or recreational camp.

2. Probable Case of MERS

Three combination of clinical, epidemiological and laboratory criteria can define a probable case of MERS:

a) A person with a febrile acute respiratory illness with clinical, radiological, or histopathological evidence of pulmonary parenchymal disease (e.g. pneumonia or Acute Respiratory Distress Syndrome); **and**

Testing for MERS is unavailable or negative on a single inadequate specimen[3]; **and**

The patient has a direct epidemiologic-link[4]; with a confirmed MERS case[4].

b) A person with a febrile acute respiratory illness with clinical, radiological, or histopathological evidence of pulmonary parenchymal disease (e.g. pneumonia or Acute Respiratory Distress Syndrome); **and**

An inconclusive MERS laboratory test (that is, a positive screening test without confirmation)[5]; **and**

History of residing in / travel from the Middle East; or from other affected countries with active transmission within 14 days before onset of symptoms; **or**

Direct contact with dromedary (Arabian) camels or consumption or exposure to dromedary (Arabian) camel products (raw meat, unpasteurized milk, urine) in countries where MERS is known to be circulating in dromedary (Arabian) camel populations or where human infections occurred as a result of presumed zoonotic transmission; within 14 days before onset of symptoms.

c) A person with an acute febrile respiratory illness of any severity; **and**

An inconclusive MERS laboratory test (that is, a positive screening test without confirmation)[5]; **and**

The patient has a direct epidemiologic-link[4]; with a confirmed MERS-CoV case[5].

[3] An inadequate specimen would include a nasopharyngeal swab without an accompanying lower respiratory specimen, a specimen that has had improper handling, is judged to be of poor quality by the testing laboratory or was taken too late in the course of illness.

[4] A direct epidemiological link may include:

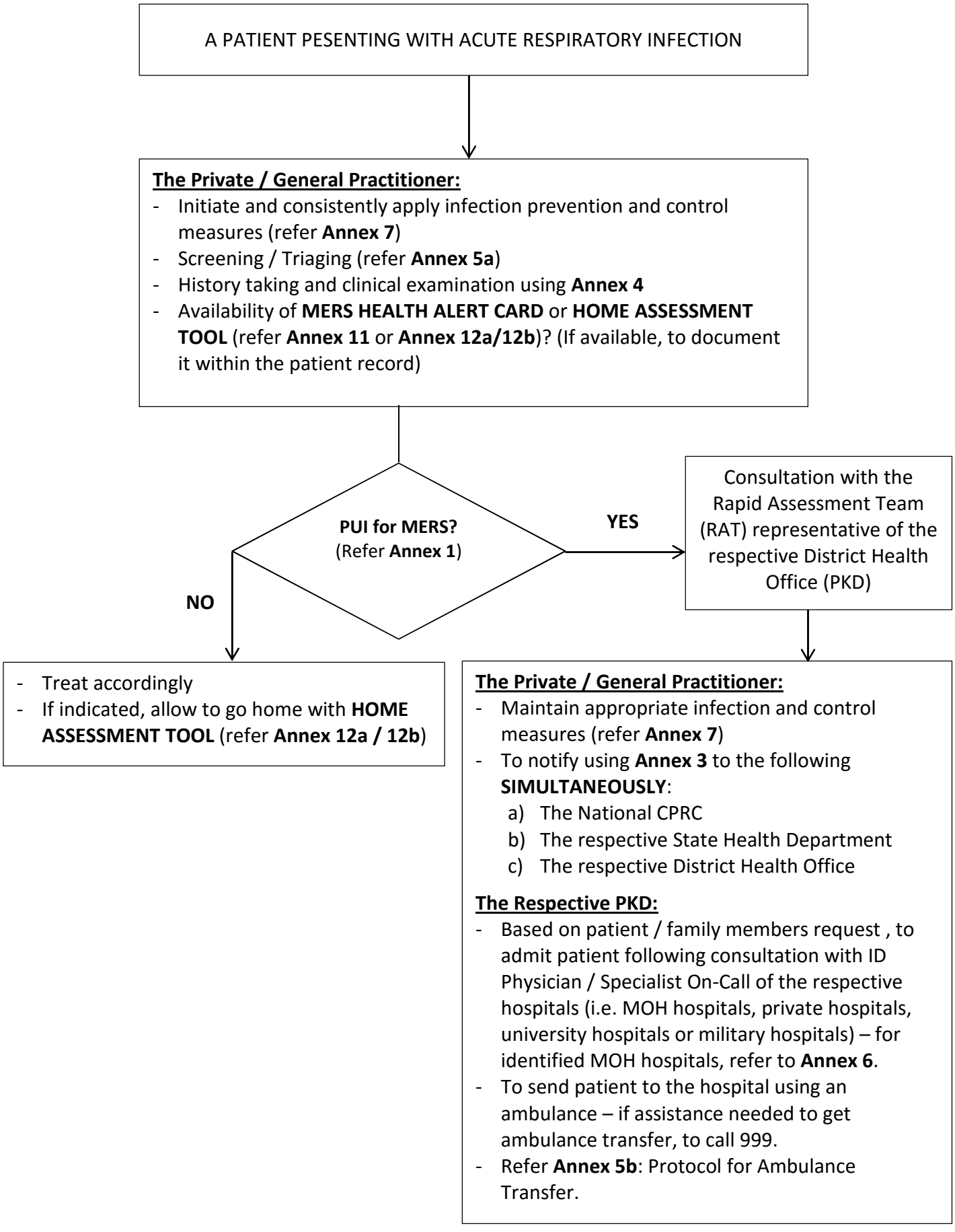
- *Close physical contact*
- *Working together in close proximity or sharing the same classroom environment*
- *Travelling together in any kind of conveyance*
- *Living in the same household*
- *The epidemiological link may have occurred within a 14 day period before or after the onset of illness in the case under consideration*

[5] Inconclusive tests may include:

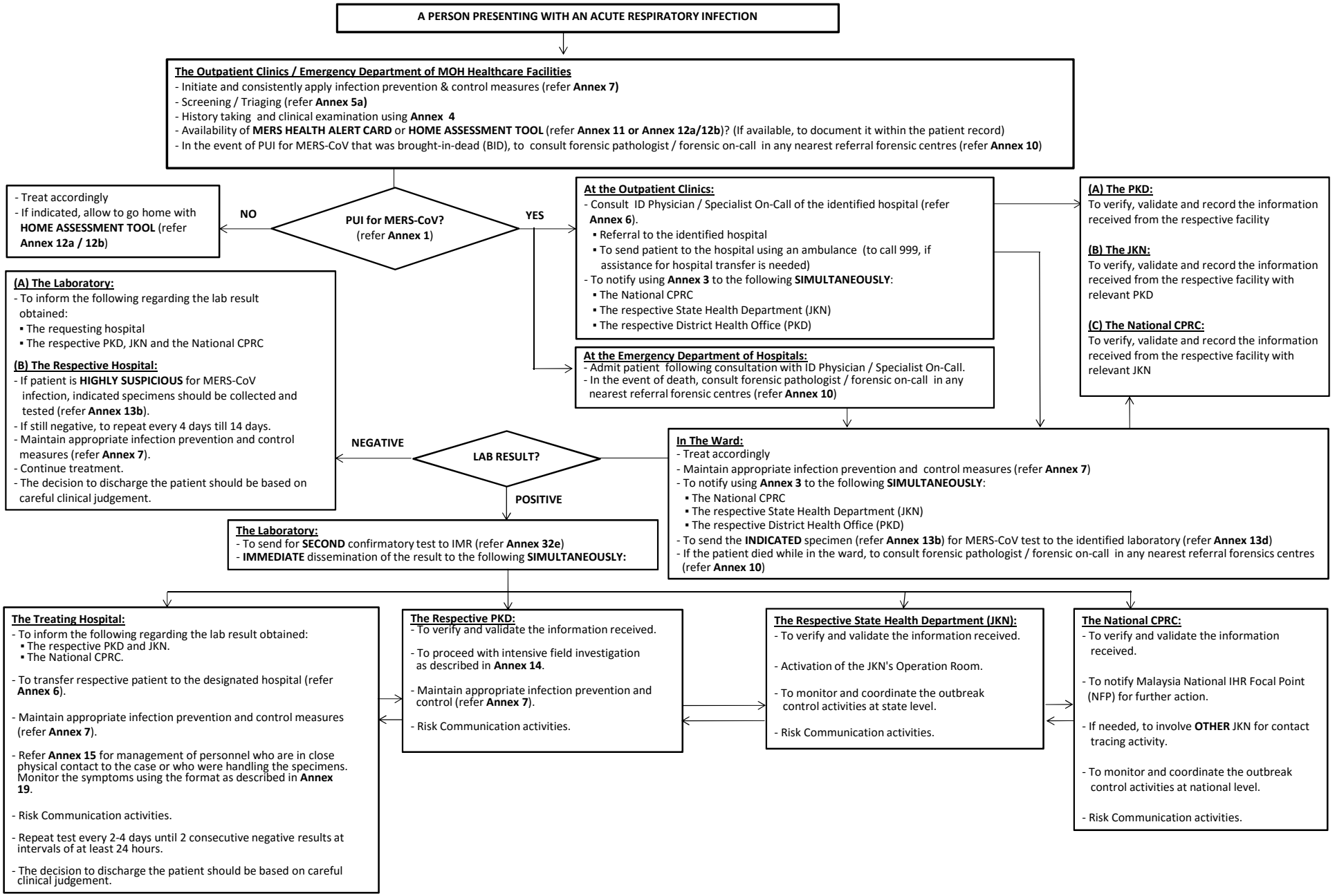
- *A positive screening test without further confirmation such as testing positive on a single PCR target*
- *Serological assay considered positive by the testing laboratory*

3. Confirmed Case of MERS: A person with laboratory confirmation of infection with the MERS.

Private / General Practitioners (GP):
Flow Chart For Management of Acute Respiratory Infection When MERS Is Suspected



MOH Healthcare Facilities: Flow Chart For Management Of Acute Respiratory Infection When MERS Is Suspected



Private Hospitals: Flow Chart For Management Of Acute Respiratory Infection When MERS Is Suspected

A PERSON PRESENTING WITH ACUTE RESPIRATORY INFECTION

Emergency Department of Private Hospitals
- Initiate and consistently apply infection prevention & control measures (refer **Annex 7)**
- Screening / Triaging (refer **Annex 5a)**
- History taking and clinical examination using **Annex 4**
- Availability of **MERS HEALTH ALERT CARD** or **HOME ASSESSMENT TOOL** (refer **Annex 11 or Annex 12a / 12b**)? (If available, to document it within the patient record)
- In the event of PUI for MERS-CoV that was brought-in-dead (BID), to consult forensic pathologist / forensic on-call in any nearest referral forensic centres (refer **Annex 10**)

PUI for MERS-CoV?

NO
- Treat accordingly
- If indicated, allow to go home with **HOME**

YES

Admit patient following consultation with ID Physician /

In The Respective Private Hospital Ward:
- Treat accordingly
- Maintain appropriate infection prevention and control measures (refer **Annex 7**)
- To notify using **Annex 3** to the following **SIMULTANEOUSLY**:
  - The National CPRC
  - The respective State Health Department (JKN)
  - The respective District Health Office (PKD)
- To send the **INDICATED** specimen (refer **Annex 13b**) for MERS-CoV test to the identified private laboratory (refer **Annex 13d**)
- If the patient died while in the ward, to consult forensic pathologist / forensic on-call in any nearest referral forensics centres (refer **Annex 10**)

(A) The PKD:
To verify, validate and record the information received from the respective facility.

(B) The JKN:
To verify, validate and record the information received from the respective facility with relevant PKD.

(C) The National CPRC:
To verify, validate and record the information received from the respective facility with relevant JKN.

LAB RESULT?

NEGATIVE

(A) The Private Laboratory:
- To inform the following regarding the lab result obtained:
  - The requesting hospital
  - The respective District Health Office (PKD)
  - The respective State Health Department (JKN)
  - The National CPRC

(B) The Respective Private Hospitals:
- If patient is **HIGHLY SUSPICIOUS** for MERS-CoV infection, indicated specimens should be collected and tested (refer **Annex 13b**).
- If still negative, to repeat every 4 days till 14 days.
- Maintain appropriate infection prevention and control measures (refer **Annex 7**).
- Continue treatment.
- The decision to discharge the patient should be based on careful clinical judgement.

POSITIVE

The Private Laboratory:
- To send for **SECOND** confirmatory test to IMR (refer **Annex 13e**)
- **IMMEDIATE** dissemination of the result to the following **SIMULTANEOUSLY:**

The Treating Private Hospital:
- To inform the following regarding the lab result obtained:
  - The respective PKD and JKN
  - The National CPRC

- **TO REFER THE PATIENT TO DESIGNATED MOH HOSPITAL FOR FURTHER MANAGEMENT** - Consult ID Physician / Specialist On-Call of the identified MOH hospital (refer **Annex 6**):
  - transfer patient as per instruction given by ID Physician / Specialist On-Call of the identified MOH hospital
  - to send patient to the hospital using an ambulance (if assistance needed to get ambulance, call 999)

- Refer **Annex 5b**: Protocol for Ambulance Transfer.

- Refer **Annex 15** for management of personnel who are in close physical contact to the case or who were handling the specimens . Monitor the symptoms using the format as described in **Annex 19**.

- Risk Communication activities.

The Respective PKD:
- To verify and validate the information received

- To proceed with **intensive** field investigation as described in **Annex 14**.

- Maintain appropriate infection prevention and control (refer **Annex 7**).

- Risk Communication activities.

- Advise (if needed) to Private Clinic/Hospital.

The Respective State Health Department (JKN):
- To verify and validate the information received.

- Activation of the JKN's Operation Room.

- To monitor and coordinate the outbreak control activities at state level.

- Risk Communication activities.

The National CPRC:
- To verify and validate the information received.

- To notify Malaysia National IHR Focal Point (NFP) for further action.

- If needed, to involve **OTHER** JKN for contact tracing activity.

- To monitor and coordinate the outbreak control activities at national level.

- Risk Communication activities.

University Hospitals: Flow Chart For Management Of Acute Respiratory Infection When MERS Is Suspected

A PERSON PRESENTING WITH ACUTE RESPIRATORY INFECTION

Emergency Department of Private Hospitals
- Initiate and consistently apply infection prevention & control measures (refer **Annex 7)**
- Screening / Triaging (refer **Annex 5a)**
- History taking and clinical examination using **Annex 4**
- Availability of **MERS HEALTH ALERT CARD** or **HOME ASSESSMENT TOOL** (refer **Annex 11 or Annex 12a / 12b**)? (If available, to document it within the patient record)
- In the event of PUI for MERS-CoV that was brought-in-dead (BID), to consult forensic pathologist / forensic on-call in any nearest referral forensic centres (refer **Annex 10**)

PUI for MERS-CoV?

NO
- Treat accordingly
- If indicated, allow to go home with **HOME**

YES

Admit patient following consultation with ID Physician /

In The Respective University Hospital Ward:
- Treat accordingly
- Maintain appropriate infection prevention and control measures (refer **Annex 7**)
- To notify using **Annex 3** to the following **SIMULTANEOUSLY**:
  - The National CPRC
  - The respective State Health Department (JKN)
  - The respective District Health Office (PKD)
- To send the **INDICATED** specimen (refer **Annex 13b**) for MERS-CoV test to the identified laboratory (refer **Annex 13d**)
- If the patient died while in the ward, to consult forensic pathologist / forensic on-call in any nearest referral forensics centres (refer **Annex 10**)

(A) The PKD:
To verify, validate and record the information received from the respective facility.

(B) The JKN:
To verify, validate and record the information received from the respective facility with relevant PKD.

(C) The National CPRC:
To verify, validate and record the information received from the respective facility with relevant JKN.

LAB RESULT?

NEGATIVE

(A) The Laboratory:
- To inform the following regarding the lab result obtained:
  - The requesting hospital
  - The respective District Health Office (PKD)
  - The respective State Health Department (JKN)
  - The National CPRC

(B) The Respective University Hospitals:
- If patient is **HIGHLY SUSPICIOUS** for MERS-CoV infection, indicated specimens should be collected and tested (refer **Annex 13b**).
- If still negative, to repeat every 4 days till 14 days.
- Maintain appropriate infection prevention and control measures (refer **Annex 7**).
- Continue treatment.
- The decision to discharge the patient should be based on careful clinical judgement.

POSITIVE

The Private Laboratory:
- To send for **SECOND** confirmatory test to IMR (refer **Annex 13e**)
- **IMMEDIATE** dissemination of the result to the following **SIMULTANEOUSLY:**

The Treating University Hospital:
- To inform the following regarding the lab result obtained:
  - The respective PKD and JKN
  - The National CPRC
- **For PPUKM:** To continue treatment and to maintain appropriate infection and control measures (**Annex 7**).
- **For HUSM:** To consult ID Physician / Specialist On-Call of Hospital Raja Perempuan Zainab II, Kota Bharu, Kelantan for referral and transfer of the case.
- Refer **Annex 15** for management of personnel who are in close physical contact to the case or who were handling the specimens . Monitor the symptoms using the format as described in **Annex 19**.
- Risk Communication activities.

The Respective PKD:
- To verify and validate the information received
- To proceed with **intensive** field investigation as described in **Annex 14**.
- Maintain appropriate infection prevention and control (refer **Annex 7**).
- Risk Communication activities.
- Advise (if needed) to Private Clinic/Hospital.

The Respective State Health Department (JKN):
- To verify and validate the information received.
- Activation of the JKN's Operation Room.
- To monitor and coordinate the outbreak control activities at state level.
- Risk Communication activities.

The National CPRC:
- To verify and validate the information received.
- To notify Malaysia National IHR Focal Point (NFP) for further action.
- If needed, to involve **OTHER** JKN for contact tracing activity.
- To monitor and coordinate the outbreak control activities at national level.
- Risk Communication activities.

Military Hospitals: Flow Chart For Management Of Acute Respiratory Infection When MERS Is Suspected

A PERSON PRESENTING WITH ACUTE RESPIRATORY INFECTION

Emergency Department of Private Hospitals
- Initiate and consistently apply infection prevention & control measures (refer **Annex 7)**
- Screening / Triaging (refer **Annex 5a)**
- History taking and clinical examination using **Annex 4**
- Availability of **MERS HEALTH ALERT CARD** or **HOME ASSESSMENT TOOL** (refers **Annex 11 or Annex 12a/12b**)? (If available, to document it within the patient record)
- In the event of PUI for MERS-CoV that was brought-in-dead (BID), to consult forensic pathologist / forensic on-call in any nearest referral forensic centres (refer **Annex 10**)

PUI for MERS-CoV?

NO
- Treat accordingly
- If indicated, allow to go home with **HOME**

YES

Admit patient following consultation with ID Physician /

In The Respective Military Hospital Ward:
- Treat accordingly
- Maintain appropriate infection prevention and control measures (refer **Annex 7**)
- To notify using **Annex 3** to the following **SIMULTANEOUSLY**:
  - The National CPRC
  - The respective State Health Department (JKN)
  - The respective District Health Office (PKD)
- To send the **INDICATED** specimen (refer **Annex 13b**) for MERS-CoV test to the identified private laboratory (refer **Annex 13d**)
- If the patient died while in the ward, to consult forensic pathologist / forensic on-call in any nearest referral forensics centres (refer **Annex 10**)

(A) The PKD:
To verify, validate and record the information received from the respective facility.

(B) The JKN:
To verify, validate and record the information received from the respective facility with relevant PKD.

(C) The National CPRC:
To verify, validate and record the information received from the respective facility with relevant JKN.

LAB RESULT?

NEGATIVE

(A) The Private Laboratory:
- To inform the following regarding the lab result obtained:
  - The requesting hospital
  - The respective District Health Office (PKD)
  - The respective State Health Department (JKN)
  - The National CPRC

(B) The Respective Military Hospitals:
- If patient is **HIGHLY SUSPICIOUS** for MERS-CoV infection, indicated specimens should be collected and tested (refer **Annex 13b**).
- If still negative, to repeat every 4 days till 14 days.
- Maintain appropriate infection prevention and control measures (refer **Annex 7**).
- Continue treatment.
- The decision to discharge the patient should be based on careful clinical judgement.

POSITIVE

The Private Laboratory:
- To send for **SECOND** confirmatory test to IMR (refer **Annex 13e**)
- **IMMEDIATE** dissemination of the result to the following **SIMULTANEOUSLY:**

The Treating Military Hospital:
- To inform the following regarding the lab result obtained:
  - The respective PKD and JKN
  - The National CPRC

- **TO REFER THE PATIENT TO DESIGNATED MOH HOSPITAL FOR FURTHER MANAGEMENT** - Consult ID Physician / Specialist On-Call of the identified MOH hospital (refer **Annex 6**):
  - transfer patient as per instruction given by ID Physician / Specialist On-Call of the identified MOH hospital
  - to send patient to the hospital using an ambulance (if assistance needed to get ambulance, call 999)

- Refer **Annex 5b**: Protocol for Ambulance Transfer.

- Refer **Annex 15** for management of personnel who are in close physical contact to the case or who were handling the specimens . Monitor the symptoms using the format as described in **Annex 19**.

- Risk Communication activities.

The Respective PKD:
- To verify and validate the information received

- To proceed with **intensive** field investigation as described in **Annex 14**.

- Maintain appropriate infection prevention and control (refer **Annex 7**).

- Risk Communication activities.

- Advise (if needed) to Private Clinic/Hospital.

The Respective State Health Department (JKN):
- To verify and validate the information received.

- Activation of the JKN's Operation Room.

- To monitor and coordinate the outbreak control activities at state level.

- Risk Communication activities.

The National CPRC:
- To verify and validate the information received.

- To notify Malaysia National IHR Focal Point (NFP) for further action.

- If needed, to involve **OTHER** JKN for contact tracing activity.

- To monitor and coordinate the outbreak control activities at national level.

- Risk Communication activities.

NOTIFICATION FORM
FOR MERS CASE

Disease Control Division
Ministry Of Health Malaysia

1.Reporting Centre	**Name of Hospital / Clinic:**		**State:**
Phone:	Fax:	E-mail:	
2. Information of Patient	**Name:**	**Age**:___yr ___mth	**Gender**: ☐Male ☐Female
Address:	Phone (Home):		RN No:
Nationality: ☐Malaysian ☐Non Malaysian	***Ethnicity:*** ☐Malay ☐Chinese ☐Indian ☐ *Other, specify:*		IC No:
	Country of Origin:		Passport No:
Occupation : ☐Health Care Worker ☐*Others, please state:*			**Date of symptom onset** *[dd/mm/yy] :*
3. Signs and Symptoms	☐ Fever ☐ Cough ☐Sorethroat☐ Myalgia ☐ Headache		☐ Shortness of breath/difficulty breathing
	Temperature on admission: ____˚C		☐Other symptoms, specify :
4. Chest X-Ray finding	Evidence of lung infiltrates consistent with pneumonia		☐Yes ☐ No ☐ Not done
5. Is there any alternative diagnosis that can fully explain patient's illness?			☐Yes ☐ No
6. Clinical status at time of report	Was patient hospitalised? ☐Yes, date: _____ ☐ Brought In Dead (BID) *Date:*____	Ward: ☐ Isolation ward ☐ General ward ☐ ICU	Progress: ☐On treatment, specify: _____ ☐ Died *Date :*____
If patient died: Was past mortem performed?	☐ Yes ☐ No ☐ Pending		
7. Exposure History	Did patient had history of close contact with a confirmed MERS-CoV patient? ☐ ***Yes*** ☐***No***	*If yes, please state the name and address*	**Name:** **Address:**
8. Travel History	Has the patient travelled to areas reporting confirmed cases of MERS-CoV prior to onset of symptoms ☐ ***No*** ☐ ***Yes*** ***If yes, please specify:***		

	Country/State/province visited	Duration of stay		Name of Airline & Flight No/Cruise/Other mode of transportation
		From **[dd/mm/yr]**	To **[dd/mm/yr]**	
1.				
2.				
3.				
Date of return to Malaysia:		Entry point :		

9. Similar illness	Anybody in the neighbourhood having similar illness? ☐**Yes** ☐**No**			
10. Diagnostic Evaluation	Date taken	Date send to lab	Name of laboratory	Result
Virology				
11. Working diagnosis: *(please state)*				

12. Reporting Officer:		Signature:
Designation:	**Date:**	H/phone No:
For District Health Office use only		
13. Contact Tracing	Has contact tracing been done? ☐Yes ☐ No Date of contact tracing done: Number of contacts examined:	Number of contact with similar illness: Number of contact isolated: Number of contact referred to hospital:
14. Active case finding	Has active case finding been initiated? ☐ Yes ☐ No Number of people with similar illness:	No. of cases referred to hospital: Number of cases isolated:
15. Investigating Officer:		Signature:
Designation:	Date:	H/Phone No:
For Disease Control Division use only		
COMMENTS:		

MERS: Clerking Sheet

Date:_____ Interviewer's Name: _____Address: _____

Patient Name:_____ IC/Passport No:_____ Male Female
Address: _____Phone No: _____Age: _____
Next of Kin (Name &Contact): _____ Malaysian Non-Malaysian _____

Travel History:				
No.	**Country/State/Province Visited**	**Duration of Stay**		**Name of Airline & Flight No.**
		From (dd/mm/yr)	**To (dd/mm/yr)**	
1.				
2.				
3.				
Date of return to Malaysia:		Entry Point:		

A. Symptoms of acute respiratory illness		**B. Signs of respiratory illness**	
Date of Onset:			
Fever:		Clinical evidence of pneumonia:	
Respiratory symptoms:		Radiological evidence of pneumonia:	
Other symptoms:		Other clinical signs:	

C. Severity *If YES to any of the questions below, considered moderate to severe illness*				
Respiratory rate (per min)	/min	*Moderate to severe if > 24/min*		Yes ( ) No ( )
Oxygen saturation	%	*Moderate to severe if SpO_2 ≤92%*		Yes ( ) No ( )
Blood pressure	mmHg	*Moderate to severe if < 90/60 mmHg*		Yes ( ) No ( )
Inability to speak in full sentences	Yes ( ) No ( )	Rapidly progressive disease		Yes ( ) No ( )
Breathing with accessory muscles	Yes ( ) No ( )	Persistent high fever > 3 days		Yes ( ) No ( )
Decreased effort tolerance	Yes ( ) No ( )	Severe and persistent vomiting and/or diarrhoea		Yes ( ) No ( )
Respiratory exhaustion	Yes ( ) No ( )			
Chest pains	Yes ( ) No ( )	New onset of confusion, agitation, seizures		Yes ( ) No ( )
Capillary refill time > 2 second	Yes ( ) No ( )			

D. Epidemiological Risk Assessment

Within 14 days before onset of the illness, did you:*(Please tick the relevant answer)*

1. have close contact[1] with a confirmed or probable (hospitalized or under quarantine) MERS- CoV case?
2. travel to either the Arabian Peninsular[2] or country with known transmission of MERS-CoV (name the country: _____)
3. have any direct contact with camels or consume any camel products (unprocessed milk, meat-unprocessed/ raw or undercooked, urine) from countries with known zoonotic transmission of MERS-CoV

Any additional Information_____

1. *Close contact is defined as: **a)** Health care associated exposure, including providing direct care for MERS-CoV patients, working with health care workers infected with MERS-CoV, visiting patients or staying in the same close environment of a MERS-CoV patient while not wearing recommended personal protective equipment (i.e., gowns, gloves, respirator, eye protection); **b)** Working together in close proximity or sharing the same classroom environment with a with MERSCoV patient; **c)** Traveling together with MERS-CoV patient in any kind of conveyance; d) Living in the same household as a MERS-CoV patient. **Note:** The epidemiological link may have occurred within a 14-day period before or after the onset of illness in the case under consideration.*
2. *Countries with known transmission of MERS-CoV in the Arabian Peninsula include Iran, Jordan, Kuwait, Lebanon, Oman, Qatar, Saudi Arabia, the United Arab Emirates (UAE) and Yemen.*

MERS: SCREENING AND TRIAGING

- A special area should be set up for PUI of MERS, to which he / she can come directly.

- The PUI should be managed by a dedicated team where possible.

- All patients who come to the respective health facilities should also be screened for suspected MERS at triage.

- **<u>WHEN SHOULD YOU SUSPECT MERS?</u>**

  MERS is to be suspected when a patient presents to Triage Counter with the following:

> A person with an acute respiratory infection, with history of fever and cough and indications of pulmonary parenchymal disease (e.g. pneumonia or ARDS), based on clinical or radiological evidence, who within 14 days before onset of symptoms has history of residing in / travel from the Middle East / other affected countries with active transmission of MERS.
>
> **** To consider the possibility of atypical presentations in patients who are immunocompromised.***

- Should a patient fulfill the description, to institute infection prevention and control measures as the following:

  - ✓ Place patients at least 1 metre away from other patients or health care workers. Emergency Departments are to prepare an isolation area / room for patients.

  - ✓ Ensure strict hand hygiene for all clinic staff and suspected patient.

  - ✓ Provide surgical mask to patients if not contraindicated.

  - ✓ Personal protective equipment as per recommendation should be worn at all times.

  - ✓ After the encounter, ensure proper disposal of all PPE described above.

> **<u>NOTE:</u>**
> It is not always possible to identify patients with MERS early because some have mild or unusual symptoms. For this reason, it is important that health care workers apply standard precautions consistently with all patients – regardless of their diagnosis in all work practices all the time.

PROTOCOL FOR AMBULANCE TRANSFER FOR PATIENT UNDER INVESTIGATION (PUI) OF MERS

PREPARATION OF THE AMBULANCE

- It is advisable to remove all non-essential equipment related to care of the intended patient.
- Ambulance must be equipped with spillage kits, disinfectant wipes, sharps bin and clinical waste ready to be used by responders.
- Use of disposable bed sheet is encouraged.

NUMBER OF PATIENTS IN AN AMBULANCE

- It is advisable to only transport one patient in an ambulance.
- Medical Direction from Emergency Physician can be obtained to allow transport of more than one patient with similar provisional diagnosis.
- There can be no mix of patient under investigation (PUI) with confirmed MERS case.

PREPARATION OF STAFF

- All staff accompanying patient at the rear of the ambulance must wear the recommended PPE:
    - Gloves.
    - Surgical Masks with shield or goggles.
    - Disposable apron or gown.
    - If the responder performs aerosol-generating procedures, the N95 mask must be used.

CARE OF THE PATIENT DURING TRANSPORT

1. Respiratory Hygiene

- In absence of respiratory distress, patients can be provided with surgical mask.
- Oxygen supplement using nasal prong can be safely used under a surgical mask.
- Placement surgical mask on other oxygen supplement delivery device require Medical Direction from Emergency Physician.

2. Placement of patient

- Patient should be propped up in sitting position in stretcher unless clinically contraindicated.

3. Intervention in Pre-Hospital

- Do not perform any procedures on the patient unless absolutely necessary.
- Medical Direction must be obtained for transportation of patient requiring more than nasal prong oxygen.

4. Communication with Medical Emergency Call Centre (MECC) and Receiving Facility

- MECC must be informed regarding estimated time of arrival, patients' clinical condition or any updates in clinical status or transportation.
- It is the responsibility of MECC to inform and update receiving facility regarding estimated time of arrival and patients' clinical condition.

DECONTAMINATION

- If spillage occurs in the ambulance
  - Use chlorine granules in the spillage kit to absorb the spill.
  - After 2 minutes or when the granules crystallize, cover the spillage with the absorbent material e.g. tissue or blue sheet.
  - Do not remove the spill while the patient or staff is in the ambulance. The decontamination of the spillage is to be done at the designated hospital.

- Decontamination of the ambulance
  - The ambulance is to be decontaminated at the designated ambulance decontamination area at receiving hospitals.
  - Decontamination agent to be used as per recommendation.

- Decontamination of staff
  - Staff from other health facility that accompany patient should undergo decontamination in the designated receiving hospital ED before returning to their respected base.

DISINFECTION OF REUSABLE UTENSILS & DISPOSAL OF WASTE

- All reusable patient care utensils should be put into the appropriate biohazard receptacles and labelled for cleaning and disinfecting later.

- All waste disposals from the affected patient should follow guidelines of Clinical Waste Management.

Senarai Hospital Rujukan Bagi Mengendalikan Kes ‘PUI MERS’ Dan ‘Confirmed MERS’

A) Hospital KKM

NEGERI	HOSPITAL RUJUKAN BAGI KES ‘PUI MERS’ (54)	HOSPITAL RUJUKAN BAGI KES ‘CONFIRMED MERS’ (23)
PERLIS	Hospital TuankuFauziah, Kangar	Hospital Tuanku Fauziah, Kangar
KEDAH	Hospital Sultanah Bahiyah, Alor Setar	Hospital Sultanah Bahiyah, Alor Setar
	Hospital Sultan Abdul Halim, Sg. Petani	
	Hospital Kulim	
	Hospital Langkawi	Hospital Langkawi
PULAU PINANG	Hospital Pulau Pinang	Hospital Pulau Pinang
	Hospital Seberang Jaya	
	Hospital Bukit Mertajam	
	Hospital Kepala Batas	
PERAK	Hospital Raja Permaisuri Bainun, Ipoh	Hospital Raja Permaisuri Bainun, Ipoh
	Hospital Taiping	
	Hospital Teluk Intan	
	Hospital Seri Manjung	
	Hospital Slim River	
SELANGOR	Hospital Tg Ampuan Rahimah Klang	Hospital Sungai Buloh
	Hospital Ampang	
	Hospital Kajang	
	Hospital Selayang	
	Hospital Serdang	
	Hospital Sungai Buloh	
	Hospital Banting	
WPKL/ PUTRAJAYA	Hospital Kuala Lumpur	
	Hospital Putrajaya	
NEGERI SEMBILAN	Hospital Tuanku Jaafar, Seremban	Hospital Tuanku Jaafar, Seremban
	Hospital Jempol	
	Hospital Tampin	
	Hospital Kuala Pilah	
MELAKA	Hospital Melaka	Hospital Melaka
JOHOR	Hospital Sultan Ismail, Johor Bahru	Hospital Permai (jika pesakit perlu diventilasi, akan dipindahkan ke Hospital Sultanah Aminah Johor Bharu)
	Hospital Sultanah Nora Ismail, BatuPahat	
	Hospital Pakar Sultanah Fatimah, Muar	
	Hospital Sultanah Aminah, Johor Bahru	
	Hospital Enche' Besar Hjh Kalsom, Kluang	
	Hospital Segamat	
PAHANG	Hospital Tengku Ampuan Afzan, Kuantan	Hospital Tengku Ampuan Afzan, Kuantan
	Hospital Sultan Hj Ahmad Shah,Temerloh	
	Hospital Kuala Lipis	

NEGERI	HOSPITAL RUJUKAN BAGI KES 'PUI MERS' (53)	HOSPITAL RUJUKAN BAGI KES 'CONFIRMED MERS' (23)
TERENGGANU	Hospital Sultanah Nur Zahirah, Kuala Terengganu	Hospital Sultanah Nur Zahirah, Kuala Terengganu
	Hospital Hulu Terengganu	
	Hospital Kemaman	
KELANTAN	Hospital Raja Perempuan Zainab II, Kota Bharu	Hospital Raja Perempuan Zainab II, Kota Bharu
	Hospital Tanah Merah	
	Hospital Kuala Krai	
	Hospital Tumpat	Hospital Tumpat
SABAH	Hospital Queen Elizabeth I, Kota Kinabalu	Hospital Queen Elizabeth I, Kota Kinabalu
	Hospital Duchess Of Kent, Sandakan	Hospital Duchess Of Kent, Sandakan
	Hospital Tawau	Hospital Tawau
	Hospital Wanita dan Kanak-kanak, Likas	Hospital Wanita dan Kanak-kanak, Likas
SARAWAK	Hospital Umum Sarawak, Kuching	Hospital Umum Sarawak, Kuching
	Hospital Miri	Hospital Miri
	Hospital Bintulu	Hospital Bintulu
	Hospital Sibu	Hospital Sibu
	Hospital Sarikei	
WP LABUAN	Hospital Labuan	Hospital Labuan

B) Hospital Bukan KKM

KATEGORI HOSPITAL	HOSPITAL RUJUKAN BAGI KES 'PUI MERS'	HOSPITAL RUJUKAN BAGI KES 'CONFIRMED MERS'
HOSPITAL ANGKATAN TENTERA MALAYSIA	Hospital Angkatan Tentera Tuanku Mizan, Kuala Lumpur	Hospital Sungai Buloh
	Hospital Angkatan Tentera Lumut, Perak	Hospital Raja Permaisuri Bainun, Ipoh
HOSPITAL UNIVERSITI	Hospital Universiti Sains Malaysia (HUSM), Kubang Kerian	Hospital Raja Perempuan Zainab II, Kota Bharu
	Pusat Perubatan Universiti Kebangsaan Malaysia (PPUKM)	Pusat Perubatan Universiti Kebangsaan Malaysia (PPUKM)

Nota:

Bagi hospital bukan KKM (iaitu hospital swasta, hospital universiti dan hospital Angkatan Tentera Malaysia), fasiliti ini juga perlu menerima kemasukan kes PUI MERS dan menghantar ujian pengesahan MERS ke makmal swasta yang telah dikenalpasti. Pesakit yang disahkan positif MERS berdasarkan ujian pengesahan tersebut perlu dirujuk kepada hospital rujukan khas (designated hospital) MERS untuk pengurusan pesakit dan rawatan selanjutnya (kecuali bagi Pusat Perubatan Universiti Kebangsaan Malaysia; PPUKM).

MERS:
THE INFECTION PREVENTION AND CONTROL (IPC) MEASURES

THE INFECTION AND PREVENTION CONTROL GUIDING PRINCIPLES

The principles of IPC for acute respiratory infection patient care include:

a) Early and rapid recognition;

b) Application of routine IPC precautions (Standard Precautions) for all patients;

c) Additional precautions in selected patients (i.e. contact, droplet, airborne) based on the presumptive diagnosis;

d) Establishment of an IPC infrastructure for the healthcare facility, to support IPC activities.

IPC strategies in healthcare facilities are commonly based on early recognition and source control, administrative controls, environmental and engineering controls and personal protective equipment (PPE).

STANDARD PRECAUTIONS

Standards Precautions are routine IPC precautions that should apply to **ALL** patients, in **ALL** healthcare settings. The precautions, described in detail within Chapter 3.1 of the ‘Policies and Procedures on Infection Control – Ministry of Health Malaysia; 2010’ are:

a) Hand hygiene before touching a patient; before any clean or aseptic procedure; after body fluid exposure risk; after touching a patient; and after touching a patient’s surroundings, including contaminated items or surfaces;

b) Use of personal protective equipment (PPE) guided by risk assessment concerning anticipated contact with blood, body fluids, secretions and non-intact skin for routine patient care. Respiratory hygiene in anyone with respiratory symptoms;

c) Environmental control (cleaning and disinfection) procedures;

d) Waste management;

e) Packing and transporting patient-care equipment, linen, laundry and waste from the isolation areas;

f) Prevention of needle-stick or sharps injuries;

WHEN DEALING WITH PATIENT UNDER INVESTIGATION (PUI) OF MERS:

1) Before Admission

- Clinical triage - rapid case identification of patients at risk
- Dedicated waiting areas for PUI
- Spatial separation of at least 1m between patients in the waiting rooms
- Provide tissues and no-touch receptacles for disposal of tissues/biohazard bag
- Provide resources for performing hand hygiene (alcohol hand rub bottles made available)
- Offer surgical mask (not N95 mask) if patient able to tolerate (not tachypneic, not hypoxic)
- Adequate environmental ventilation and environmental cleaning at waiting and triage areas

2) Patient Placement During Admission

In descending order of preference:

i. Negative pressure single room en-suite bath (if available within the health care facility)
ii. Single room (nursed with door closed) and en-suite bath
iii. Single room

3) Personal Protective Equipment (PPE) When Providing Care For PUI Of MERS (Standard And Droplets Precaution)

- In addition to Standard Precautions, all individuals (visitors and healthcare workers), when in close contact (within 1 metre) or upon entering the room or cubicle of patients, should always wear:
    - A 3 ply surgical mask
    - Eye protection (i.e. goggles or a face shield)
    - A clean, non-sterile, long-sleeved gown
    - Gloves (some procedures may require sterile gloves)

- Always perform hand hygiene before and after contact with the patient and surroundings and immediately after removal of PPE

- Use dedicated equipment (e.g. stethoscopes, blood pressure cuffs and thermometers)

- If equipment needs to be shared, clean and disinfect after each patient use

- Healthcare workers (HCWs) should refrain from touching their eyes, nose or mouth with potentially contaminated gloved or ungloved hands

- Avoid the movement of patients unless medically necessary e.g. use designated portable X-ray equipment instead of bringing patient to radiology.

- If movement of patient is required, use preplanned routes that minimize exposure to other staff, patients and visitors. Notify the receiving area before sending the patient

- Clean and disinfect patient-contact surfaces (e.g. bed) after use

- HCWs transporting patients must wear appropriate PPE

4) PPE When Performing Aerosol-Generating Procedures (Standard And Airborne Precautions)

- An aerosol-generating procedure (AGP) is defined as any medical procedure that can induce the production of aerosols of various sizes, including small (< 5 μm) particles. The aerosol-generating procedures include:

    - Intubation - the strongest evidence for needing airborne precaution
    - Manual ventilation
    - Non-invasive ventilation (e.g., BiPAP, BPAP) – avoid if possible
    - Tracheostomy insertion
    - Bronchoscopy
    - Sputum induction
    - Nebulization (some recent guidelines disqualified this as AGP)

- Airborne precaution also recommended when taking oropharyngeal/ nasopharyngeal swab

- Additional precautions (airborne precaution) include using:

    - At least a particulate respirator i.e. N95 mask (always check the seal)
    - Eye protection (i.e. goggles or a face shield)
    - A clean, non-sterile, long-sleeved gown and gloves (some of these procedures require sterile gloves)
    - A fluid resistant apron for procedures with expected high fluid volumes that might penetrate the gown

- Perform aerosol-generating procedures in an adequately ventilated room; i.e. at least 6 to 12 air changes per hour in facilities with a mechanically ventilated room

- Limit the number of persons present to the bear minimum

- Perform hand hygiene before and after contact with the patient and surroundings and after PPE removal

WHEN DEALING WITH A CONFIRMED MERS CASE

- Confirmed case shall be transferred to designated hospital if patient condition permits.

- Patient shall be placed in negative pressure single room with en-suite bath.

- If unavailable, may consider (descending order of preference):

  i. Single room (nursed with door closed) and en-suite bath
  ii. Single room
  iii. Cohort with other confirmed patients (please inform hospital infection control)
    - place confirmed patients together and separate them from probable patients
    - place patient beds at least 1 metre apart

- Personal protective equipment required for all individuals, when in close contact (within 1m) or upon entering the room or cubicle of patients
  - N95 mask (always check the seal)
  - Eye protection (i.e. goggles or a face shield)
  - A clean, non-sterile, long-sleeved gown
  - a fluid resistant apron for procedures with expected high fluid volumes that might penetrate the gown
  - Gloves (some procedures may require sterile gloves)

- When performing Aerosol-Generating Procedures (AGP), perform in an adequately ventilated room; i.e. at least 6 to 12 air changes per hour in facilities with a mechanically ventilated room. Limit the number of persons present to the minimum. The aerosol-generating procedures are as following:
  - Intubation - the strongest evidence for needing airborne precaution
  - Manual ventilation
  - Non-invasive ventilation (e.g., BiPAP, BPAP) – avoid if possible
  - Tracheostomy insertion
  - Bronchoscopy

    - Sputum induction
    - Nebulization (some recent guidelines disqualified this as AGP)

- Always perform hand hygiene before and after contact with the patient and surroundings and immediately after removal of PPE.

- Use dedicated equipment (e.g. stethoscopes, blood pressure cuffs and thermometers)

- If equipment needs to be shared, clean and disinfect after each patient use.

- HCWs should refrain from touching their eyes, nose or mouth with potentially contaminated gloved or ungloved hands.

- Avoid the movement of patients unless medically necessary e.g. use designated portable X-ray equipment instead of bringing patient to radiology.

- If movement of patient is required, use preplanned routes that minimize exposure to other staff, patients and visitors. Notify the receiving area before sending the patient.

- Cleaning and disinfection of patient-contact surfaces are followed consistently and correctly.

- Manage laundry, food service utensils and medical waste in accordance with safe routine procedures.

- HCWs transporting patients must wear appropriate PPE.

HEALTHCARE WORKER (HCW)

- Healthcare worker with high risk condition / immunocompromised should not be allowed managing and providing routine care for MERS cases.

- Healthcare worker who are managing and providing routine care for MERS cases need to be trained on proper use of PPE.

- The HCWs who are managing and providing routine care for MERS should be monitored for symptoms daily (refer **Annex 19**: Monitoring Form For Personnel Potentially Exposed to MERS Infection).

- Once these HCWs become symptomatic he / she need to be isolated and managed accordingly.

VISITORS POLICY

- Limit the number of family members and visitors in contact with a probable or confirmed case MERS infection.

- Family members and visitors who may come into contact with a patient should be limited to those essential for patient support and should be trained on the risk of transmission and on the use of the same infection control precautions as HCWs who are providing routine care.

Intensive Care Preparedness Plan For MERS

1. As most of the existing intensive care units in the Ministry of Health hospitals have no isolation facilities for management of highly infectious patients, those who need intensive care shall be cared for in the designated isolation rooms/ ward identified in the individual hospital for management of patients with MERS.

2. Staff nurses from the intensive care unit shall be deployed to nurse patients who are mechanically ventilated. This is to minimise exposure to staff who have less experience in nursing ventilated patients.

3. Standard precautions as well as infection prevention and control recommendations by the Ministry of Health shall be adhered to.

Infection Control Measures For Aerosol-Generating Procedures

(Aerosol-generating procedures: include intubation, nasopharyngeal aspiration, tracheal suctioning, tracheostomy care, chest physiotherapy, bronchoscopy, nebuliser therapy).

1. Avoid or minimize the performance of aerosol-generating procedures without compromising patient care. Only those healthcare workers needed to perform the procedure shall be present.

2. In addition to N95 masks, eye protection (goggles and full-face shield/visor) shall be worn to prevent eye contact with infectious material during such procedures.

3. Disposable respiratory equipment shall be used wherever possible. Reusable equipment shall be disinfected in accordance with local policy and manufacturers guidelines.

4. For non-intubated patients requiring oxygen therapy, non-humidified oxygen can be delivered via nasal prongs or simple facemask. Do not use bubble-through water humidification.

5. Ventilators shall be identified only for use for patients with MERS.

6. All ventilators shall be fitted with viral filter; a filter is to be placed between the distal end of expiratory tubing and the ventilator (to prevent contamination).

7. Use disposable ventilatory breathing circuit. The ventilatory circuit shall not be “broken” unless absolutely necessary. Do not change ventilatory circuits on a routine basis. Ventilators shall be put on standby mode or turned off if there is a need to break the circuit.

8. Use closed suctioning systems. Do not disconnect from ventilator and manually ventilate during suctioning. Instead administer 100% oxygen on the ventilator during suctioning.

9. Water humidification shall not be used. Use combination of heat moisture exchanger with viral filter. It is to be placed at the Y-piece of the breathing circuit.

10. Avoid the use of nebulizers. For intubated patients use metered dose inhalers if necessary.

11. When using a manual resuscitator bag, connect a viral filter between the endotracheal tube and the manual resuscitator bag.

12. Consider paralyzing patient during bronchoscopy to minimise coughing.

13. Do not attempt insertion of nasogastric tube in a non-intubated patient unless absolutely necessary.

14. The use of non-invasive positive pressure ventilation is strongly discouraged.

15. Adhere to the following infection control measures during intubation:

    - whenever possible, only experienced doctors shall attempt intubation (spread of infection at the time of intubation appears to be associated with difficult intubation, prolonged manual bagging)

    - rapid sequence induction shall be practiced during intubation. Avoid awake intubation. Ensure the patient is adequately paralyzed before attempting laryngoscopy.

- a viral filter shall be fitted between the facemask and manual resuscitator bag.

- minimize manual ventilation. If essential, it shall be carried out by two personnel: one holds the mask tightly against patient's face while the other squeezes the bag gently.

- inflate ETT cuff before ventilating the patient.

- turn on the ventilator only when it is connected to the endotracheal tube.

INFECTION PREVENTION AND CONTROL (IPC) IN INTENSIVE CARE SETTING FOR MERS INFECTION

1. As most of the existing intensive care units in the Ministry of Health hospitals do not have isolation facilities for management of highly infectious patients, those who need intensive care shall be cared for in the designated isolation rooms/ ward identified in the individual hospital for management of patients with MERS.

2. Staff nurses from the intensive care unit shall be deployed to nurse patients who are mechanically ventilated. This is to minimise exposure to staff who have less experience in nursing ventilated patients.

3. Standard precautions as well as infection prevention and control recommendations by the Ministry of Health shall be adhered to.

IPC Measures During Aerosol-Generating Procedures

(Aerosol-generating procedures: include intubation, manual ventilation, tracheal suctioning, tracheostomy care, bronchoscopy, non-invasive ventilation).

1. Avoid or minimize the performance of aerosol-generating procedures without compromising patient care. Limit the number of healthcare workers present during the procedure to only those essential for patient care.

2. In addition to N95 respiratory masks, eye protection (goggles and/or full-face shield/visor), long sleeved gowns and gloves shall be worn during such procedures. Respiratory masks are only effective if there is a tight seal to the wearer’s face.

3. PPE shall be removed in the following sequence:

    a) Gloves
    b) Apron/gown
    c) Decontaminate hands
    d) Eye wear
    e) Respiratory mask – (avoid touching the front of the mask)
    f) Decontaminate hands

4. Use disposable respiratory equipment wherever possible. Reusable equipment shall be disinfected in accordance with local policy and manufacturers guidelines.

5. Oxygen delivery devices and humidifiers

    5.1. For non-intubated patients requiring oxygen therapy, non humidified oxygen can be delivered via nasal prongs or simple facemask.

5.2. Generally, these low flow oxygen systems do not need to be humidified. The use of bubble-through water humidifiers at high flow rates (> 10L/min) can produce aerosols.

6. Invasive ventilator

6.1. Ventilators shall be identified only for use for patients with MERS.

6.2. Ventilators shall be fitted with a viral filter. It is placed between the distal end of the expiratory breathing circuit and exhalation port of the ventilator.

6.3. Disposable ventilator circuits shall be used whenever possible.

6.4. The ventilatory circuits shall not be disconnected unless absolutely necessary. Ventilators shall be put on standby mode or turned off if there is a need to disconnect the circuit.

6.5 Do not change ventilatory circuits on a routine basis.

7. During tracheal intubation

7.1 Whenever possible, only experienced doctors shall attempt intubation (spread of infection at the time of intubation appears to be associated with difficult intubation, prolonged manual ventilation).

7.2 Rapid sequence induction shall be practised during intubation. Avoid awake intubation. Ensure the patient is adequately paralysed before attempting laryngoscopy.

7.3 A viral filter shall be fitted between the facemask and manual resuscitator bag.

7.4 Minimise manual ventilation. If essential, it shall be carried out by two personnel; one holds the mask tightly against the patient's face while the other squeezes the bag gently.

7.5 Inflate the cuff of endotracheal tube before ventilating the patient.

7.6 Turn on the ventilator only when it is connected to the endotracheal tube.

8. While on invasive ventilation

8.1 Mechanical ventilation creates high gas flows. Tracheal cuff pressures should be checked frequently and kept inflated at pressures of 25-30 cmH20 to create a good seal against the tracheal wall.

8.2 Avoid water humidification. Instead, use a combination of heat moisture exchanger with viral filter (HMEF) at the Y-piece of the breathing circuit.

Note that each HMEF change results in a patient circuit disconnection and a short period of time when expired airborne particles are not filtered.

8.3 Use closed (in-line) tracheal suctioning systems. Do not disconnect from ventilator and manually ventilate patients during suctioning. Instead, administer 100% oxygen on the ventilator during suctioning.

8.4 Use metered dose inhalers instead of small volume nebuliser if nebulisation of drugs is required.

8.5 When using a manual resuscitator bag, connect a viral filter between the endotracheal tube and the manual resuscitator bag.

8.6 Consider paralysing patients during bronchoscopy to minimise coughing.

9. Non-invasive ventilation

9.1 Avoid the use of non-invasive ventilation if patients are not nursed in single isolation rooms.

9.2 Consider the use of breathing circuit with expiratory port filter, which would need to be used with a closed (non-ported) facemask.

9.3 Do not attempt insertion of nasogastric tube in a non-intubated patient unless absolutely necessary.

DISCHARGE CRITERIA FOR A PREVIOUSLY CONFIRMED CASE OF MERS

- The duration of infectivity for MERS infection is unknown.

- While Standard Precautions should always be applied, isolation and droplet precautions should be used for the duration of symptomatic illness and continued for at least 24 hours after the resolution of symptoms.

- Testing for viral shedding should assist decision-making when readily available

    - Repeat testing at 24 and 48 hours after symptoms resolve.
    - If two (2) repeated PCR tests are negative, may consider discontinuation of isolation and droplet precautions, after discussing with Infectious Disease Physician

GUIDELINES FOR HANDLING DEATH OF SUSPECTED / PROBABLE / CONFIRMED CASE OF MIDDLE EAST RESPIRATORY SYNDROME CORONAVIRUS (MERS) INFECTION

A. GUIDELINES FOR TRANSFER OF SUSPECTED/PROBABLE/CONFIRMED MERS-CoV INFECTION DEAD BODIES FROM EMERGENCY DEPARTMENT OR WARD TO MORTUARY.

B. GUIDELINES FOR MANAGEMENT OF BROUGHT IN DEAD (BID) CASES OF SUSPECTED OR PROBABLE MERS-CoV INFECTION.

C. GUIDELINES FOR POST MORTEM EXAMINATION OF CASES SUSPECTED OR PROBABLE MERS-CoV INFECTION.

D. GUIDELINES FOR DISPOSAL OF SUSPECTED/PROBABLE/CONFIRMED MERS-CoV INFECTION DEAD BODIES.

A. GUIDELINES FOR TRANSFER OF SUSPECTED/PROBABLE/CONFIRMED MERS-CoV INFECTION DEAD BODIES FROM EMERGENCY DEPARTMENT OR WARD TO MORTUARY.

1. Bodies of suspected/probable/confirmed MERS infection shall be sent from the Emergency Department or ward to the mortuary as soon as practicable.

2. Staff must wear the appropriate personal protective equipment (eg; N95 or N100 masks, gloves and protective aprons) whilst handling/preparing the body.

3. Relatives are **STRICTLY PROHIBITED** from touching or kissing the body. The number of relatives allowed to view the body for identification should be limited to **not more than 3 persons** at a time. They must wear the appropriate personal protective equipment. They can only be allowed to stand **at least 3 feet away** from the body.

4. Relatives are **STRICTLY FORBIDDEN** to handle the body under any circumstances.

5. Body shall be prepared in the ward by the ward staff before conveying to the mortuary.

6. Body preparation;

   6.1. First step : Wrap body with white cotton linen.

   6.2. Second Step : Place body in first body bag and wipe bag with 0.5% Sodium Hypochlorite.

   6.3. Third Step : Wrap the first body bag with white cotton linen.

   6.4. Fourth Step : Place the body in a second body bag.

7. Body transfer from the emergency department or ward shall be carried out by 2 attendants (one each from the emergency/ward and mortuary). Both attendants must wear appropriate personal protective equipment.

8. On arrival at the mortuary, the body must be immediately placed in a designated body freezer.

9. Sampling for all suspected or probable MERS cases shall be carried out in the emergency department or ward by the respective teams.

10. **NO POST MORTEM EXAMINATION** should be performed for confirmed cases of MERS infection.

B. GUIDELINES FOR MANAGEMENT OF BROUGHT IN DEAD (BID) CASES OF SUSPECTED OR PROBABLE MERS-CoV INFECTION.

1. Bodies of suspected or probable MERS infection which are brought in dead (BID) shall be sent to the mortuary as soon as practicable.

2. The receiving medical staff shall :

   2.1. Communicate/discuss the case with the forensic pathologist at the respective **referral forensic centre** (refer **Table 1**) to decide on how to manage the case.

      i. The procedural approach on the post-mortem examination.

      ii. To obtain a police order (Polis 61) for post mortem examination.

   2.2. To notify using **Annex 3** to the following agencies **SIMULTANEOUSLY**:

      i. The National CPRC, Ministry of Health.

      ii. The respective State Health Departments (JKN).

      iii. The respective District Health Offices (PKD).

3. Post-mortem examination of suspected or probable case of MERS infection shall be conducted at the **RESPECTIVE HOSPITAL** itself.

C. GUIDELINES FOR POST MORTEM EXAMINATION OF SUSPECTED OR PROBABLE MERS INFECTION CASES.

1. Post mortem examination, if indicated, of suspected or probable MERS infection shall be performed at the respective hospital.

2. For suspected or probable MERS infected patient whom has died in the emergency department or ward (death in department - DID), the attending clinician shall obtain a written consent from the next of kin for the autopsy to be performed and to refer the case to the respective regional histopathologist for **CLINICAL POST MORTEM EXAMINATION.**

3. For BID case with post mortem order issued by the police (Polis 61), post mortem examination shall be conducted by forensic pathologist.

4. Staff should wear the appropriate personal protective equipment whilst handling/preparing the body.

5. The post mortem examination requires strict adherence to protocols and safety precautions which include usage of appropriate personal protective equipment (primary barriers) and post mortem room facilities with appropriate biosafety features (secondary barriers).

6. The post-mortem examination should be planned in advance such as date and time, health personnel involved, instruments, equipment, procedures required and the type of specimens to be taken.

7. Only four trained personnel should conduct the post mortem examination. These personnel should comprise of a Forensic Pathologist or Histopathologist, a Medical Officer, a Forensic Medical Assistant and a Forensic Health Attendant.

8. Specimen bottles/tubes and containers should be prepared in advance. This will determine the required number of specimens to be collected, ensure containers are properly labeled and suitable tissue fixative/transport media are used.

9. During the post mortem examination, the following procedures must be strictly adhered to:

    i. Only one person should dissect at any particular time.

    ii. Prevention of percutaneous injury: Never recap, bend or cut the needles and ensure appropriate sharps container is available.

    iii. Stringent cleanliness must be followed. Spilling on the floor and soiling of the gowns/jumpsuits etc. should be avoided. In the event of spillage on the floor, wash immediately and clean with 1:10 Sodium Hypochlorite solution.

    iv. Adherence to strict and safe post mortem techniques is essential.

10. Specimens collected should be placed immediately into appropriate containers. These containers must be immediately closed and sealed; the outer surface of container should be cleaned and placed in double polythene bags with bio-hazard labels/tags. These bags are then passed through the specimen chamber (if available) or carried out by the personnel when leaving the post mortem room.

11. After stitching the body, it should be cleaned with water and followed by 0.5% sodium hypochlorite or any suitable / recommended disinfectant.

12. Washing of the body is not recommended. However for religious ritual purposes, washing of bodies (***mandi kapan***) and body preparation must be conducted in the post-mortem room itself by the same personnel conducting the post mortem examination. However in the event of unavailability of a personnel of the same gender as the deceased, another trained person of the same gender or "mahram" shall be allowed to enter the post mortem room to perform the "Mandi Kapan" rituals. This person must also be trained and use the Personal Protective Equipment.

13. After completion of the body cleaning or 'mandi kapan' process, the body shall be wrapped in a 4 layered body preparation as the following:-

    13.1. First layer : Wrap body with a white cotton linen/bed sheet.

    13.2. Second Layer : Place body in a body bag and wipe bag with 0.5% Sodium Hypochlorite solution.

    13.3. Third layer : Wrap the body bag with a white cotton linen.

    13.4. Fourth layer : Place the body in a second body bag.

14. The body will be placed in the designated body freezer prior to disposal.

15. The entire post mortem room must be cleaned and mopped. All infected waste materials such as contaminated clothing of the body, linen and disposable items must be put in a 2 layered clinical waste (yellow coloured) plastic bags. Instruments are washed thoroughly and immersed in 0.5% sodium hypochlorite solution. Post mortem table, workstation, floor and walls are to be cleaned thoroughly and disinfected with 0.5% sodium hypochlorite solution.

16. The post mortem personnel should spray on to their body with disinfectant before removing them. All disposable garments including the head covers/hoods, body suits/coverall, gloves and aprons must be placed in the double layered yellow plastic bag for incineration. The respirator, hood, blower/filtered fan and hose must be thoroughly sprayed and wiped with disinfectant after removal, and left to air dry in a room.

17. The personnel must bathe immediately and change into a fresh clothing/attire before leaving the changing room.

D. GUIDELINES FOR DISPOSAL OF SUSPECTED/PROBABLE/CONFIRMED MERS INFECTION DEAD BODIES.

1. It is recommended that bodies of suspected, probable or confirmed MERS infection (after post-mortem examination) shall be disposed off via burial or cremation as soon as practicable.

2. Washing of the body is not recommended. However for Muslim body, body washing (mandi kapan) and body preparation must be conducted in the Post Mortem Room by the post mortem personnel themselves immediately after completion of the post mortem examination.

3. Embalming must be avoided.

4. The body shall then be placed in a coffin and sealed before leaving the mortuary.

5. The release of body to the relatives/claimants must be carried out with strict precautionary measures under the supervision of the Health Inspector.

6. Relatives are prohibited from opening the sealed coffin and the Health Inspector must ensure that this precautionary measure is adhered to.

7. All suspected, probable confirmed MERS infected bodies are recommended to be taken for burial or cremation directly from the mortuary, preferably within the same day of the death or post mortem examination.

THE PERSONAL PROTECTIVE EQUIPMENT (PPE) ARE THE PROTECTIVE GARMENTS AND RESPIRATORY GEAR.

Protective Garments Include:

- Disposable Scrub suit or equivalent.
- Disposable waterproof bodysuits/coverall with full feet cover.
- Knee length Wellington Boots.
- Disposable shoe/boot covers.
- Disposable impervious long sleeved full length gowns.
- Neoprene/Cut-resistant gloves.
- Double gloves (with the outer layer being elbow-lengthed gloves)
- N95/N100 masks.
- Full face shield head gear/helmet.

Respiratory Gear Include:

Full faced *Powered Air Purifying Respirators* (PAPR) with HEPA filter (A loose fitting type is recommended). This respirator consists of a hood or helmet, breathing tube, battery-operated blower, and HEPA filters. It meets the CDC guidelines.

Table 1: **List Of 16 Referral Forensics Centres**

REFERRAL FORENSIC CENTRES	STATES
Hospital Kuala Lumpur	WP Kuala Lumpur WP Putrajaya
Hospital Sungai Buloh Hospital Tengku Ampuan Rahimah, Klang Hospital Serdang	Selangor
Hospital Tuanku Jaafar, Seremban	Negeri Sembilan
Hospital Melaka	Melaka
Hospital Sultanah Aminah, Johor Bahru Hospital Sultan Ismail, Johor Bahru	Johor
Hospital Sultanah Nur Zahirah, K. Terengganu	Terengganu
Hospital Raja Perempuan Zainab II, Kota Bahru	Kelantan
Hospital Tengku Ampuan Afzan, Kuantan	Pahang
Hospital Raja Permaisuri Bainun, Ipoh	Perak
Hospital Pulau Pinang	Pulau Pinang
Hospital Sultanah Bahiyah, Alor Setar	Kedah Perlis
Hospital Umum Sarawak, Kuching	Sarawak
Hospital Queen Elizabeth, Kota Kinabalu	Sabah WP Labuan

KAD AMARAN KESIHATAN
BAGI JEMAAH UMRAH / JEMAAH HAJI / PELAWAT DAN ANAK KAPAL YANG BARU PULANG DARI TANAH SUCI ATAU KAWASAN YANG DIJANGKITI
***MIDDLE EAST RESPIRATORY SYNDROME* (MERS)**

Simpan kad ini selama 14 hari setelah kembali ke Malaysia. Pantau suhu badan anda dan awasi gejala seperti demam (≥ 38℃), batuk dan susah bernafas. Jika anda tidak s ihat sila berjumpa doktor dengan **SEGERA**.

Begitu juga, jika anda mempunyai gejala tersebut:

i. Tutup mulut dan hidung anda menggunakan tisu apabila anda batuk dan bersin. Sejurus selepas itu, buang tisu yang telah digunakan kedalam tong sampah. Cuci tangan dengan sabun dan air atau bahan pencuci tangan (*hand sanitizer*) selepas batuk atau bersin;
ii. Amalkan adab batuk yang baik;
iii. Pakai penutup mulut dan hidung (*mask*) apabila terpaksa berhubung / berurusan dengan orang lain;
iv. Pastikan anda menjaga kebersihan diri sepanjang masa.

KEPADA DOKTOR YANG MERAWAT PESAKIT INI:
Individu yang membawa kad ini adalah merupakan penumpang atau anak kapal yang baru pulang dari negara rantau Timur Tengah (*Middle East*) atau negara yang mengalami penularan aktif jangkitan (dalam tempoh 14 hari yang lepas). Jika anda mendapati beliau mengalami gejala seperti demam (≥38℃), batuk dan susah bernafas, sila rujuk ke hosp ital yang berhampiran dengan **SEGERA**.

HEALTH ALERT CARD
FOR UMRAH PILGRIMS / HAJJ PILGRIMS / TRAVELERS AND FLIGHT CREW RETURNING FROM THE HOLLY LAND OF FROM COUNTRIES WITH ACTIVE TRANSMISSION OF MIDDLE EAST RESPIRATORY SYNDROME (MERS) INFECTION

Keep this card for the next 14 days after returning to Malaysia. Monitor your body temperature and look out for fever (≥ 38^0C) and symptoms of cough and/or breathing difficulty. If these symptoms were to develop and you are not feeling well, seek medical advice **IMMEDIATELY*.***

As such, kindly practice the following:

i. Cover your mouth and nose using tissue whenever you cough or sneeze. Throw the tissue in the thrash after you use it. Wash your hands with soap and water or use hand sanitizer regularly;
ii. Always follow cough etiquette and use face mask whenever being in public or close contact with people;
iii. Always maintain good personal hygiene and cleanliness.

ATTENTION TO THE ATTENDING DOCTOR:
The person who is presenting this ***ALERT CARD*** *to you had recently travelled or returned from Middle East Countries or other affected countries with active transmission (within the past 14 days). If the person presents with fever (≥ 38^0C), cough and breathing difficulty, please refer him/her* **IMMEDIATELY** *to the nearest hospital.*

*TATACARA PENILAIAN KESIHATAN KENDIRI

Amalkan langkah – langkah mudah berikut apabila anda jatuh sakit:

- Bagi yang bekerja / bersekolah, gunakan cuti sakit yang diberikan oleh doktor untuk berehat di rumah
- Hadkan pergaulan dengan mereka yang sihat di sekeliling anda
- Tutup mulut dan hidung anda menggunakan tisu apabila anda batuk dan bersin. Sejurus selepas itu, buang tisu yang telah digunakan kedalam tong sampah
- Amalkan adab batuk yang baik
- Sentiasa mengamalkan tahap kebersihan diri yang tinggi seperti kerap mencuci tangan dengan menggunakan air dan sabun atau bahan pencuci tangan (*hand sanitizer*), terutamanya selepas batuk atau bersin. Pakai penutup mulut dan hidung (*mask*) apabila terpaksa berhubung/ berurusan dengan orang lain

Individu dengan gejala demam dan batuk dan / atau sakit tekak adalah dinasihatkan untuk mendapatkan rawatan perubatan sekiranya pada bila-bila masa mereka mengalami mana-mana gejala dan tanda seperti berikut:

- Kesukaran bernafas – tercungap - cungap, pernafasan menjadi laju atau warna bibir bertukar menjadi ke biruan
- Batuk berdarah
- Sakit dada yang berterusan
- Cirit – birit dan / atau muntah yang berterusan
- Demam yang berpanjangan sehingga melebihi 3 hari atau demam yang berulang semula selepas 3 hari
- Perubahan tingkahlaku, kurang responsif, kelirudan / atau sawan
- Mudah merasa pening / pusing apabila berdiri
- Kurang buang air kecil (daripada kebiasaannya)

Jika anda mempunyai mana-mana gejala di atas, segera dapatkan rawatan dari fasiliti kesihatan terdekat:

- Pergi dapatkan rawatan dengan menggunakan kenderaan persendirian; atau
- Jika perkhidmatan ambulan diperlukan, sila dail 999 untuk bantuan.

***Perhatian:** Sila simpan kad ini bersama anda dan serahkan kepada mana-mana fasiliti kesihatan yang anda kunjungi. Kad ini perlu disimpan selama 14 hari dari tarikh ia diberikan kepada anda.*

*HOME ASSESSMENT TOOL

Practice these simple steps if you are at home:

- Use the medical leave provided by your doctor wisely by staying at home and rest;
- While sick, limit contact with others as much as possible to keep from infecting them;
- Cover your mouth and nose using tissue whenever you cough or sneeze. Throw the tissue in the thrash after you use it;
- Always follow cough etiquette;
- Always maintain good personal hygiene and cleanliness. Wash your hands often with soap and water, especially after coughing or sneezing. If soap and water are not available, use hand sanitizer. Use face mask whenever being in public or close contact with people.

Individual with fever and cough and/or sore throat are advised to seek medical care should they develop any of the symptoms and signs listed as below:

- Breathing difficulties – shortness of breath, rapid breathing or purple/blue discolouration of the lips
- Coughing out blood or blood streaked sputum
- Persistent chest pains
- Persistent diarrhea and/or vomiting
- Fever persisting beyond 3 days or recurring after 3 days
- Abnormal behavior, confusion, less responsive and / or convulsion
- Dizziness when standing and/or reduced urine production

If you have the above signs, go to the nearest healthcare facility:

- Using own personal transport, or
- If ambulance service is needed, to call 999 for assistance.

Important: Please keep this with you and present it to any facility should you return. Keep it for 14 days from the day it was issued.

CLINICAL SPECIMENS TO BE COLLECTED FROM SYMPTOMATIC PATIENTS

Category	Test	Type of sample	Timing	Storage and transportation
Symptomatic patient	**RT-PCR**	**Lower respiratory tract specimen** - Sputum - Aspirate - Lavage **Upper respiratory tract specimen** - Nasopharyngeal and oropharyngeal swabs - Nasopharyngeal wash / nasopharyngeal aspirate ***Note:*** *If lower respiratory tract specimens are not available, serum for virus detection (via RT-PCR) should be considered*	Collect on presentation. To confirm clearance of the virus, sample collection to be repeated until the results are negative on 2 sequential samples	If the specimen will reach the laboratory in less than 72 hours, store and transport at 4℃. If the specimen will reach the laboratory in more than 72 hours, store at -80℃ and transport on dry ice.
	Serology	Serum ***Note:*** *Particularly if seroepidemiological investigation were to be conducted. This indication will be updated as needed*	Paired samples are necessary for confirmation with the initial sample collected in the first week of illness and the second ideally collected 2-3 weeks later. If only a single serum sample can be collected, this should occur at least 14 days after onset of symptoms for determination of a probable case.	As above

CLINICAL SPECIMENS TO BE COLLECTED FROM ASYMPTOMATIC CONTACTS

Category	Test	Type of sample	Timing	Storage and transportation
Asymptomatic contact	**RT-PCR**	Nasopharyngeal and oropharyngeal swabs; sputum if possible	Within 14 days of last documented contact – to collect on first encounter. For confirmation, sample collection to be repeated 14 days later.	As above
	Serology	Serum ***Note:*** *Particularly if seroepidemiological investigation were to be conducted. This indication will be updated as needed*	Paired samples are necessary for confirmation with the initial sample collected in the first week of illness and the second ideally collected 2-3 weeks later. If only a single serum sample can be collected, this should occur at least 14 days after onset of symptoms for determination of a probable case.	As above

IN-PATIENT MANAGEMENT:
LABORATORY TESTING FOR MERS DIAGNOSIS

***LOWER RESPIRATORY TRACT SPECIMENS (LRTSs):**
Deep cough sputum, bronchoalveolar lavage, tracheal aspirate, pleural fluid, lung tissue

UPPER RESPIRATORY TRACT SPECIMENS (URTSs):
COMBINED nasopharyngeal and oropharyngeal swabs (NP and OP swabs), nasopharyngeal aspirate / wash

Bronchoalveolar lavage, tracheal aspirate, sputum, pleural fluid, nasopharyngeal aspirate / wash

Combined NP/OP swabs, lung tissue

Plain sterile container

Viral transport media (VTM)

Send the specimens in ice to the laboratory **as soon as possible**
Keep specimens at 4℃

DO NOT FREEZE

Transport specimens in ice
(Triple Packaging)

For **screening and first confirmatory tests** by:
The identified laboratories
(refer ‘**Annex 13d**’)

Result?

Positive

Negative

Transport specimens in ice **(Triple Packaging)**

For **second confirmatory test** by the Virology Unit, IMR

****Repeat test every 2-4 days until 2 consecutive negative results at intervals of at least 24 hours**

For strongly suspected cases or specimen of poor quality:
Both specimen types should be collected and tested

If still negative, **to repeat every 4 days till 14 days

Sputum, tracheal aspirate specimen preferred

Remarks:

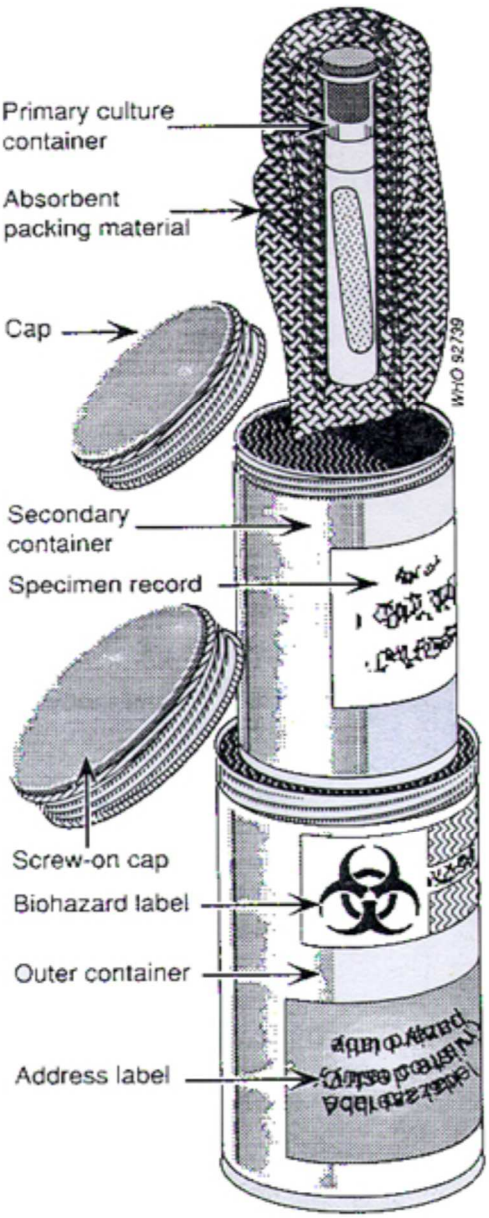
** If lower respiratory tract specimens are not available, serum for virus detection (via RT-PCR) should be considered*

*** If in case need to repeat test more frequent, to discuss with Microbiologist in-charge in each hospital. Sample should be sent to the laboratory before 9 am to ensure the result can be given on the same day of the test requested*

NOTE:
Do not use wooden shaft / cotton swab

Use dacron / rayon / polyester swabs

MERS: TRIPLE LAYER PACKAGING



NOTE:

This annex is a summary of specific MOH Malaysia guidance on transport of biological specimens which has already been published. For further information, kindly refer to this document:

i. Standard Operating Procedure for Transport of Biological Specimens in Malaysia. Ministry of Health Malaysia, 2012. Available at: http://www.imr.gov.my/en/component/content/article/77-english-content/services/1472-idrc-sop-for-transportation-of-biological-specimens.html

Agihan Makmal Yang Mengendalikan Sampel Klinikal
Bagi MERS Mengikut Lokasi Fasiliti Yang Menghantar

Bil.	Lokasi Fasiliti Yang Menghantar Sampel	Makmal Yang Mengendalikan Sampel
(A) FASILITI KESIHATAN KERAJAAN		
1.	Perlis	Hospital Sultanah Bahiyah, Alor Setar, Kedah
2.	Kedah	Hospital Sultanah Bahiyah, Alor Setar, Kedah
3.	Pulau Pinang	Hospital Pulau Pinang
4.	Perak	Hospital Raja Permaisuri Bainun, Ipoh, Perak
5.	Selangor	Hospital Sungai Buloh, Selangor
6.	WP Kuala Lumpur & Putrajaya	Hospital Kuala Lumpur
7.	Negeri Sembilan	Hospital Tuanku Jaafar, Seremban, N. Sembilan
8.	Melaka	Hospital Melaka
9.	Johor	Hospital Sultanah Aminah, Johor Bahru, Johor
10.	Pahang	Hospital Tengku Ampuan Afzan, Kuantan, Pahang
11.	Terengganu	Hospital Sultanah Nur Zahirah, Kuala Terengganu, Terengganu
12.	Kelantan	Hospital Raja Perempuan Zainab II, Kota Bharu, Kelantan
13.	Sarawak	Hospital Umum Kuching, Sarawak
14.	Sabah	Makmal Kesihatan Awam, Kota Kinabalu, Sabah
15.	WP Labuan	Makmal Kesihatan Awam, Kota Kinabalu, Sabah
(B) FASILITI KESIHATAN SWASTA		
16.	Seluruh negara	Geneflux Diagnostics Sdn. Bhd., Menara KLH, Bandar Puchong Jaya, Selangor No Tel: 03-80768154 No Fax: 03-80703654 Lablink (M) Sdn. Bhd. Bangunan Lablink, 14 (129) Jalan Pahang Barat Off Jalan Pahang, 53000 Kuala Lumpur No Tel: 03-40234588 / 40233588 No Fax:03-40234298 Email: nazri@kpjlablink.com Pantai Premier Pathology Sdn. Bhd. 1st Floor, Medical Office Block (MOB), Pantai Hospital Ampang, Jalan Perubatan 3, 55100, Kuala Lumpur. No Tel: 03-42809115 Fax: 03-42964095 Email: info@premierpathology.com.my

(C) SAMPEL DALAM KALANGAN KONTAK RAPAT DENGAN KES YANG DISAHKAN DIJANGKITI MERS (TERMASUK ANGGOTA KESIHATAN), YANG DIKESAN MELALUI AKTIVITI ACD DI LAPANGAN		
17.	Semenanjung Malaysia	Makmal Kes. Awam Kebangsaan (MKAK) Sg. Buloh, Selangor
18.	Sarawak, Sabah dan WP Labuan	Makmal Kesihatan Awam Kota Kinabalu, Sabah
(D) SAMPEL SERUM DALAM KALANGAN KONTAK RAPAT DENGAN KES YANG DISAHKAN DIJANGKITI MERS (TERMASUK ANGGOTA KESIHATAN), YANG DIKESAN MELALUI AKTIVITI ACD DI LAPANGAN		
19.	Seluruh negara	Unit Virologi, Institut Penyelidikan Perubatan (IMR), Kuala Lumpur

MAKLUMAT TAMBAHAN:

Bil.	***Jenis Ujian***	***Tanggungjawab***
1.	*Ujian saringan dan ujian pengesahan pertama (first confirmatory test) MERS-CoV*	*Makmal (1-16) sebagaimana ketetapan di atas*
2.	*Ujian saringan dan ujian pengesahan pertama (first confirmatory test) MERS-CoV bagi kontak rapat dengan kes yang disahkan dijangkiti MERS-CoV (termasuk anggota kesihatan), yang dikesan melalui aktiviti ACD*	*Makmal (17-18) sebagaimana ketetapan di atas*
3.	*Ujian pengesahan kedua (second confirmatory test) MERS-CoV*	*Unit Virologi, Institut Penyelidikan Perubatan (IMR), Kuala Lumpur*
4.	*Ujian serologi MERS-CoV (bagi menjalankan Kajian Sero-Epidemilogi)*	*Unit Virologi, Institut Penyelidikan Perubatan (IMR), Kuala Lumpur*

SENARAI PEGAWAI UNTUK DIHUBUNGI UNTUK PENGHANTARAN SAMPEL BAGI UJIAN PENGESAHAN KEDUA (*SECOND CONFIRMATORY TEST*) MERS DI LUAR WAKTU PEJABAT, HUJUNG MINGGU DAN CUTI UMUM

UNIT VIROLOGI, IMR

Pejabat : 03-2616 2671
Faks : 03-2693 8094

No.	Nama Pegawai	Jawatan	Pejabat	No. H/P
1.	Dr .Rozainanee Mohd Zain	Pakar Patologi (Mikrobiologi Perubatan)	03-26162579	013-341 2468
2.	Puan TS Saraswathy	Pegawai Penyelidik Kanan	03-26162671	012-685 7581
3.	Dr. Ravindran Thayan	Pegawai Penyelidik Kanan	03-26162672	016-286 7647
4.	Encik Mohd Apandi Yusof	Pegawai Penyelidik Kanan	03-26162671	013-845 3167
5.	Puan Fauziah Md Kassim	Pegawai Penyelidik Kanan	03-26162671	019-386 7090

RESPONDING TO MERS OUTBREAK:
LABORATORY TESTING FOR SERO-EPIDEMIOLOGICAL INVESTIGATION

SERUM FOR SEROLOGICAL TESTING:

Paired samples are necessary for confirmation with the initial sample collected in the first week of illness and the second ideally collected 2-3 weeks later.

NOTE:
If paired samples are not possible, a single serum sample should be collected at least 14 days after onset of symptoms.

↓

PLAIN STERILE CONTAINER

↓

Send the specimens in ice to the laboratory **ASAP**
Keep specimens at 4℃
DO NOT FREEZE

↓

Transport specimens in ice
(TRIPLE PACKAGING)

↓

For **SEROLOGICAL TESTING** by:
The Virology Unit, IMR, Kuala Lumpur

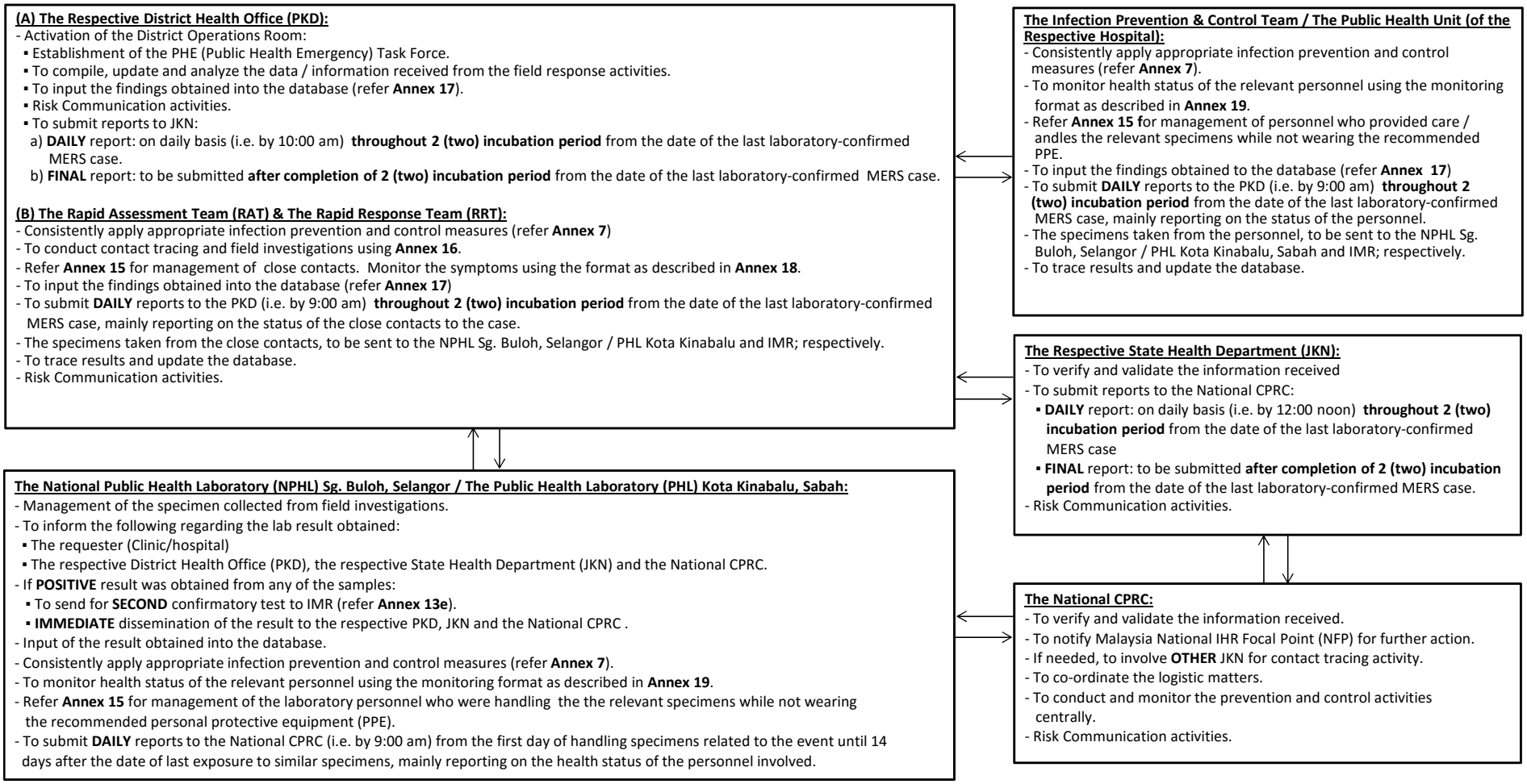
NOTE:
There are two situations where we may wish to conduct serological testing for MERS, namely:

- *Serology in relation to defining a MERS case for reporting under the International Health Regulations (IHR) 2005;*
- *Serological surveys, including to retrospectively assess the extent of an outbreak*

Therefore, seroepidemiological investigation may be conducted, as and when required following the directive given by the DG of Health, the Deputy DG of Health (Public Health) or the Director of Disease Control Division. The protocols to guide data collection for this investigation are readily available at WHO websites:

- *Seroepidemiological Investigation of Contacts of Middle East Respiratory Syndrome (MERS-CoV) Patients. Geneva, World Health Organization, 2013. Available at: http://www.who.int/csr/disease/coronavirus_infections/WHO_Contact_Protocol_MERSCoV_19_November_2013.pdf*
- *Assessment of potential risk factors of infection of MERS-CoV among health care personnel in a health care setting. Geneva, World Health Organization, 2014. Available at: http://www.who.int/csr/disease/coronavirus_infections/Healthcare_MERS_Seroepi_Investigation_27Jan2014.pdf*

A Laboratory-Confirmed MERS-CoV Infection: Flow Chart For Field Response Activities



NOTE: SEROEPIDEMIOLOGICAL *investigation involving the close contacts and the respective health care personnel may be conducted, as and when required following the directive given by the DG of Health, the Deputy DG of Health (Public Health) or the Director of Disease Control Division. The protocols to guide data collection for this investigation are readily available at WHO website. For further information, kindly refer to these documents:*

a) Seroepidemiological Investigation of Contacts of Middle East Respiratory Syndrome (MERS-CoV) Patients. Geneva, World Health Organization, 2013. Available at: http://www.who.int/csr/disease/coronavirus_infections/WHO_Contact_Protocol_MERSCoV_19_November_2013.pdf

b) Assessment of potential risk factors of infection of MERS-CoV among health care personnel in a health care setting. Geneva, World Health Organization, 2014. Available at: http://www.who.int/csr/disease/coronavirus_infections/Healthcare_MERS_Seroepi_Investigation_27Jan2014.pdf

Responding to MERS Outbreak:
Management Of Close Contacts To A Probable / Confirmed Case of MERS

*** Close Contact Detected Through The Following Activities:**
(a) Contact tracing by the Rapid Assessment Team (RAT) and the Rapid Response Team (RRT) on the field; **OR**
(b) Monitoring of personnel who were in close physical contact to the case or who were handling the relevant specimens; **OR**
(c) Health screening at the point of entry (POE)

SYMPTOMATIC CONTACT?

NO

YES

ASYMPTOMATIC CONTACT:

- Home surveillance (i.e. the Observation & Surveillance Order) to be imposed on the contact, including restriction on his / her daily movement
- To ensure that the order is followed, complete two (2) sets of the Order Form (refer **Annex 21a / 21b**). Get the form to be signed by the contact. One copy to be kept by the contact and one copy to be kept as a record in the Operations Room of District Health Office.
- To conduct 14 days surveillance (i.e. from the date of last exposure to the confirmed case / specimen) using **Annex 18 / 19**.
- Provide the contact with hand-out / pamphlet about MERS infection along with the modified Home Assessment Tool (refer **Annex 20a / 20b**).
- To input relevant findings collected into the database (refer **Annex 17**).
- To send clinical specimens (as indicated in **Annex 13a**) to the NPHL Sg. Buloh / PHL Kota Kinabalu and IMR; respectively (refer **Annex 13d**).
- To consult ID Physician / Specialist On-Call of the identified hospital (**Annex 6**) for referral of the respective contact, if the following were to occur:
  a) the contact become symptomatic; **or**
  b) the detection of asymptomatic RT-PCR positive contact.
- For asymptomatic RT-PCR negative contact:
  a) Continue home surveillance
  b) Samples collection (i.e. NP & OP swabs) to be repeated 14 days after the collection of the first samples
  c) If repeat samples remain negative for MERS, he / she is release from the home surveillance order and will be given the release order form (**Annex 22a / 22b**) by the authorized officer.

SYMPTOMATIC / ASYMPTOMATIC RT-PCR POSITIVE CONTACT

SYMPTOMATIC CONTACT

- Consult ID Physician / Specialist On-Call of the identified hospital (refer **Annex 6**) for referral of the respective case.
- Refer **Annex 1** for ‘Management of Acute Respiratory Infections When MERS-CoV Is Suspected’.
- For the asymptomatic RT-PCR contact, to send for **second confirmatory test** to IMR – once he / she is admitted.

**** DEFINITION OF CLOSE CONTACT:***

a) Anyone who provided care for the patient, including a health care worker (while not wearing the recommended personal protective equipment) or family member, who had other similarly close physical contact;

b) Anyone who stayed at the same place (e.g. lived with, visited) as a probable or confirmed case while the case was ill;

c) Laboratory personnel who were handling the relevant specimens of a probable or confirmed case (while not wearing recommended personal protective equipment).

Middle East Respiratory Syndrome Coronavirus (MERS)
Borang Siasatan

Panduan Untuk Pengguna Borang:
Borang ini digunakan bagi mengumpulkan maklumat awal berkaitan potensi pendedahan (*potential exposures*) kes yang disyaki, kes *probable*, kes yang disahkan dijangkiti oleh MERS atau kontak kepada kes yang disahkan dijangkiti oleh MERS dengan mengambilkira tempoh **14 hari sebelum** bermulanya onset gejala-gejala yang dialami. Siasatan ini perlu dijalankan sebaik sahaja individu disyaki mengalami jangkitan MERS. Sekiranya individu tidak dapat untuk menjawab soalan-soalan yang terkandung dalam borang siasatan ini (samada kerana telah meninggal dunia, tidak sedarkan diri atau terlalu lemah untuk bercakap), saudara rapat atau kawan kepada individu boleh menjawab bagi pihaknya.

1. MAKLUMAT PERIBADI INDIVIDU TERLIBAT

1.1	Nama Individu Terlibat:					
1.2	No. Kad Pengenalan:					
1.3	Alamat Rumah:					
1.4	Nombor Telefon:					
1.5	Individu ini ialah (tandakan √ ruangan yang disediakan): ☐ Kes disyaki *(suspected)* ☐ kes berkemungkinan *(probable)* ☐ kes disahkan *(confirmed)* ☐ kontak rapat *(close contact)*					
1.6	Individu yang menjawab siasatan ini adalah (tandakan √):					
	☐ Individu yang berkenaan	☐	Saudara terdekatnya	☐	Rakannya	
1.7	Jantina:	☐	Lelaki	☐	Perempuan	
1.8	Umur (tahun):					
1.9	Tarikh Siasatan:					
1.10	Tarikh Onset Gejala:					
1.11	Adakah individu terbabit mempunyai kaitan dengan kes MERS lain yang telah disahkan?					
	☐ *Ya	☐	Tidak	☐	Tidak tahu	
	(* Jika YA, sila dapatkan nama dan nombor kad pengenalan kes berkenaan) Nama :…… No.Kad Pengenalan :……..					

2. STATUS SEMASA INDIVIDU TERLIBAT

2.1	**Gejala Klinikal Yang Dialami**							
	Demam	Ada / Tiada	Tarikh Onset:		Batuk	Ada / Tiada	Tarikh Onset:	
	Sesak Nafas	Ada / Tiada	Tarikh Onset:		Cirit Birit	Ada / Tiada	Tarikh Onset:	
	Lain-lain (Secara ringkas, nyatakan butirannya)							
2.2	**Jenis Ujian Yang Dijalankan**							
2.2.1	Ujian Makmal: Senaraikan ujian makmal yang dijalani							
	Jenis Ujian Makmal		Tarikh Spesimen Diambil		Keputusan		Tarikh Keputusan	
2.2.2	X-Ray Dada: (Nyatakan tarikh ujian dilakukan dan dapatannya)							

3. SEJARAH PENDEDAHAN

NOTA: *Sejarah pendedahan (exposure history) perlu memberi fokus kepada tempoh <u>14 hari sebelum</u> bermulanya onset gejala yang dialami oleh individu, walaupun tempoh ini melibatkan lawatannya di luar negara. Sila gunakan lampiran tambahan bagi merekodkan maklumat yang diperolehi jika ruangan yang disediakan tidak mencukupi.*

3.1 Sejarah Lawatan / Pergerakan Pesakit / Kontak

3.1.1	Senaraikan tempat/negara yang anda kunjungi sepanjang tempoh 14 hari sebelum bermulanya onset gejala yang anda alami (sekiranya berkenaan)?

Destinasi (*nyatakan nombor penerbangan; sekiranya berkenaan*)	Tarikh Berlepas	Tarikh Pulang	Tujuan Lawatan & Cara Perjalanan

3.1.2	Adakah individu terbabit berada di Semenanjung Arab atau negara yang melaporkan penularan aktif jangkitan MERS dalam tempoh 14 hari sebelum bermulanya onset gejala yang anda alami?	( ) Ya* ( ) Tidak ( ) Tidak Tahu	*Jika YA, dapatkan butiran penginapan semasa berada di negara tersebut:
3.1.3	Adalah individu terbabit mengunjungi mana-mana fasiliti kesihatan (iaitu klinik atau hospital) dalam tempoh 14 hari sebelum bermulanya onset gejala yang dialami?	( ) Ya* ( ) Tidak ( ) Tidak Tahu	*Jika YA, dapatkan butiran mengenai fasiliti kesihatan tersebut

3.2 Sejarah Pendedahan Kepada Haiwan

NOTA: *Soalan berikut adalah berkaitan sejarah pendedahan kepada sebarang jenis haiwan dalam tempoh **<u>14 hari sebelum</u>** bermulanya onset gejala yang dialami oleh individu terlibat.*

3.2.1	Jelaskan mengenai kontak dengan sebarang jenis haiwan (samada hidup atau telah mati) termasuk jika ianya hanya melibatkan lawatan ke ladang ternakan haiwan berkenaan:		
3.2.2	Pernahkah individu terbabit menyentuh sebarang jenis haiwan peliharaan atau haiwan liar?	( ) Ya* ( ) Tidak ( ) Tidak Tahu	*Jika YA, dapatkan butiran lanjut mengenainya – cth. jenis haiwan, jenis kontak:
3.2.3	Adakah terdapat haiwan yang sakit atau yang telah mati dalam kalangannya?	( ) Ya* ( ) Tidak ( ) Tidak Tahu	*Jika YA, dapatkan butiran lanjut mengenainya keadaan haiwan tersebut:
3.2.4	Adakah individu terbabit perasan kewujudan haiwan atau najis haiwan yang pada kebiasaannya tidak pernah ditemui sebelum ini di sekitar kawasan rumah anda? (cth. kelawar, tikus, kucing/anjing liar, musang dll.)	( ) Ya* ( ) Tidak ( ) Tidak Tahu	*Jika YA, dapatkan butiran lanjut mengenainya:
3.2.5.	Adakah individu terbabit telah mengunjungi pasar yang menjual haiwan hidup?	( ) Ya* ( ) Tidak ( ) Tidak Tahu	*Jika YA, dapatkan lokasi pasar dan tarikh kunjungan tersebut:
3.2.6	Adakah individu terbabit telah mengunjungi tempat di mana terdapat haiwan hidup (cth. ladang ternakan, zoo, taman haiwan peliharaan dll.)	( ) Ya* ( ) Tidak ( ) Tidak Tahu	*Jika YA, dapatkan butiran lanjut mengenainya:

4. SEJARAH LAIN-LAIN PENYAKIT YANG DIHIDAPI

4.1	**Bagi wanita:** Adakah individu terbabit sedang hamil pada ketika ini?	( ) Ya* ( ) Tidak ( ) Tidak Tahu	*Jika YA, dapatkan butiran mengenai kehamilan (cth. Berapa minggu hamil?):
4.2	Adakah individu terbabit mengidap mana-mana penyakit berikut?		
	Penyakit buah pinggang yang kronik (Jika YA, adakah beliau menjalani dialisis?)	( ) Ya* ( ) Tidak ( ) Tidak Tahu	*Jika YA, adakah anda menjalani dialisis? Ya / Tidak
	Sistem immuniti yang lemah *(cth. akibat kanser, rawatan kemoterapi, rawatan radiasi, ubatan seperti steroid untuk jangkamasa panjang, HIV, selepas menjalani transplan organ)*	( ) Ya* ( ) Tidak ( ) Tidak Tahu	*Jika YA, sila nyatakan:
	Penyakit kencing manis (*diabetes*)	( ) Ya* ( ) Tidak ( ) Tidak Tahu	
	Lelah (*asthma*)	( ) Ya* ( ) Tidak ( ) Tidak Tahu	
	Penyakit jantung	( ) Ya* ( ) Tidak ( ) Tidak Tahu	*Jika YA, sila nyatakan:
	Penyakit hati (*liver disease*)	( ) Ya* ( ) Tidak ( ) Tidak Tahu	*Jika YA, sila nyatakan:
	Lain-lain penyakit	( ) Ya* ( ) Tidak ( ) Tidak Tahu	*Jika YA, sila nyatakan:
4.3	Adakah anda seorang perokok?	( ) Ya	Jika YA, sila nyatakan jenisnya (cth. rokok, curut): Jika YA, sila nyatakan kuantiti rokok dihisap dalam sehari: Jika YA, sila nyatakan tempoh masa anda telah merokok (tahun):
		( ) Tidak	Jika TIDAK, adakah anda bekas perokok? Ya / Tidak Jika YA, nyatakan tempoh anda telah berhenti merokok:
4.4	Adakah individu terbabit minum minuman keras?	( ) Ya* ( ) Tidak	Jika YA, nyatakan jumlah dalam sehari dan tempoh anda telah mengamalkannya:
4.5	Senarai ubat-ubatan yang diamalkan oleh individu terbabit:		

5. MAKLUMAT ISI RUMAH PESAKIT / KONTAK

5.1	Jenis rumah yang individu terbabit diami?	( ) Rumah Flat
		( ) Rumah Teres
		( ) Lain-lain (sila nyatakan ……)

5.2	Butiran lanjut mengenai isirumah pesakit / kontak *(Definisi 'isirumah': sekumpulan individu yang berkongsi satu unit ruang dapur / ruang memasak yang sama)*		
	Jumlah keseluruhan isirumah anda : ..... orang		
	*(**NOTA:** Sila dapatkan 'linelisting' bagi isirumah pesakit/kontak dan sila gunakan lampiran tambahan bagi merekodkan maklumat yang diperolehi)*		
	Bilangan individu di bawah umur 18 tahun : ..... orang Bilangan individu berumur 18 tahun dan ke atas : ..... orang		
5.3	Dalam tempoh 14 hari sebelum bermulanya onset gejala yang anda dialami, pernahkah anda bermalam di tempat lain selain dari kediaman anda?	( ) Ya* ( ) Tidak ( ) Tidak Tahu	* Jika YA, sila berikan butiran lanjut mengenainya cth. lokasi, tarikh dll.):
5.4	Adakah terdapat sebarang ladang ternakan, pasar basah yang menjual haiwan hidup, gelanggang sabung ayam dll. disekitar kawasan tempat tinggal anda?	( ) Ya* ( ) Tidak ( ) Tidak Tahu	* Jika YA, sila berikan butiran lanjut mengenainya cth. jenis premis, lokasi dll.):

6. MAKLUMAT BERKAITAN AKTIVITI SEHARIAN PESAKIT / KONTAK

NOTA: *Bahagian ini memberi fokus kepada aktiviti seharian pesakit/kontak sepanjang tempoh* ***<u>14 hari sebelum</u>*** *bermulanya onset gejala yang dialami olehnya, walaupun jika tempoh ini melibatkan penginapan pesakit di luar negara. Sebagai contohnya, sekiranya pesakit seorang dewasa, sila ajukan soalan mengenai aktiviti seharian berkaitan pekerjaan beliau dan jika pesakit seorang kanak-kanak bersekolah, sila ajukan soalan mengenai aktiviti seharian berkaitan persekolahan beliau.*

6.1	Apakah pekerjaan anda?	6.2	Dimanakah anda bekerja / bersekolah?
6.3	Jelaskan mengenai aktiviti seharian anda (iaitu pagi, petang dan malam) sepanjang tempoh 14 hari sebelum bermulanya onset gejala yang anda dialami: *(Sila gunakan lampiran tambahan sekiranya ruangan ini tidak mencukupi)*		
6.4	Adakah anda pernah menghadiri sebarang majlis keramaian / perhimpunan (cth. kenduri, konsert, perlawanan sukan dll.) sepanjang tempoh 14 hari sebelum bermulanya onset gejala yang anda dialami?	( ) Ya* ( ) Tidak ( ) Tidak Tahu	*Jika YA, berikan butiran lanjut mengenainya cth. jenis acara, lokasi, tarikh dll.)
6.5	Adakah anda terlibat dengan sebarang jenis aktiviti yang diluar dari rutin harian anda di tempat kerja / sekolah / rumah sepanjang tempoh 14 hari sebelum bermulanya onset gejala yang anda dialami?	( ) Ya* ( ) Tidak ( ) Tidak Tahu	*Jika YA, berikan butiran lanjut mengenainya cth. jenis aktiviti, lokasi, tarikh dll.)

7.0	**MAKLUMAT INDIVIDU YANG MENEMUDUGA & YANG DITEMUDUGA**	
	Nama Penemuduga :	
	Jawatan & Tempat Bertugas :	
	Tarikh & Masa :	
	Tandatangan :	
	Nama Individu Yang Ditemuduga : (Jika menjawab soalan bagi pihak individu terlibat)	
	Tandatangan :	

NAMA KES *PROBABLE / CONFIRMED* MERS-CoV: …….

SENARAI KONTAK RAPAT KEPADA KES *PROBABLE / CONFIRMED* MERS

Bil.	Nama	* Kategori Kontak	Tarikh Pendedahan	No. Kad Pengenalan	Jantina (L/P)	Umur	Alamat	No. Telefon	#Status Pemantauan Kontak Rapat *(NOTA: Bilangan lajur untuk disediakan hendaklah mengikut bilangan hari pemantauan bagi KESEMUA kontak)*													Ujian Pengesahan MERS				Catatan
									Tarikh (Hari 1)	Tarikh (Hari 2)	Tarikh (Hari 3)	Tarikh (Hari 4)	Tarikh (Hari 5)	Tarikh (Hari 6)	Tarikh (Hari 7)	Tarikh (Hari 8)	Tarikh (Hari 9)	Tarikh (Hari 10)	Tarikh (Hari 11)	Tarikh (Hari 12)	Tarikh (Hari 13)	Tarikh (Hari 14)	Jenis Sampel	Tarikh Diambil	Tarikh Keputusan	Keputusan	

#PETUNJUK:

S	Kontak berada dalam keadaan sihat.
R	Kontak mempunyai gejala jangkitan **DAN** dimasukkan ke hospital berdekatan bagi menerima rawatan lanjut.
P	Kontak tidak mempunyai sebarang gejala **TETAPI** dikesan positif melalui ujian RT-PCR yang dijalankan **DAN** dimasukkan ke hospital berdekatan bagi menerima rawatan lanjut.
T	Tempoh pemantauan kontak telah tamat.

***** Kategori kontak boleh dinyatakan sebagai ahli keluarga serumah, rakan kumpulan pakej umrah / pelancongan yang sama, saudara mara, sahabat handai, komuniti, anggota kesihatan yang mempunyai kontak dengan kes berkaitan meliputi anggota kesihatan di wad di mana dia dirawat, anggota kerja di makmal yang mengendalikan spesimennya, juru x-ray yang mengendalikan ujian baginya, anggota sokongan terlibat seperti pemandu ambulans dan sebagainya.

Borang Pemantauan Harian Bagi Kontak Rapat Kepada Kes Yang Berpotensi Dijangkiti
***Middle East Respiratory Syndrome* (MERS)**

Nama	:	
No. Kad Pengenalan	:	
No. Telefon	:	Bimbit: …….…… Rumah: ……..……..
Hubungan Kepada Kes	:	
Alamat Rumah	:	
Tarikh Pendedahan Kepada Kes*	:	
Jenis Kontak Kepada Kes Yang Berpotensi Dijangkiti MERS	:	

** Senaraikan KESEMUANYA, gunakanmukasurat yang seterusnya – jika perlu*

JADUAL PEMANTAUAN HARIAN

ARAHAN:
Bagi sebarang gejala yang dilaporkan oleh kontak,sila tandakan (√) pada ruangan yang berkenaan,

Hari 1	Hari 2	Hari 3	Hari 4	Hari 5	Hari 6	Hari 7
Tarikh: …….…….….....	**Tarikh:** …….…….….....	**Tarikh:** …….…….….....	**Tarikh:** …….…….….....	**Tarikh:** …….…….….....	**Tarikh:** …….…….….....	**Tarikh:** …….…….….....
Gejala ILI:	**Gejala ILI:**	**Gejala ILI:**	**Gejala ILI:**	**Gejala ILI:**	**Gejala ILI:**	**Gejala ILI:**
Demam ( )	Demam ( )	Demam ( )	Demam ( )	Demam ( )	Demam ( )	Demam ( )
Batuk ( )	Batuk ( )	Batuk ( )	Batuk ( )	Batuk ( )	Batuk ( )	Batuk ( )
Sakit Tekak ( )	Sakit Tekak ( )	Sakit Tekak ( )	Sakit Tekak ( )	Sakit Tekak ( )	Sakit Tekak ( )	Sakit Tekak ( )
Sakit Sendi ( )	Sakit Sendi ( )	Sakit Sendi ( )	Sakit Sendi ( )	Sakit Sendi ( )	Sakit Sendi ( )	Sakit Sendi ( )
Cirit ( )	Cirit ( )	Cirit ( )	Cirit ( )	Cirit ( )	Cirit ( )	Cirit ( )
Muntah ( )	Muntah ( )	Muntah ( )	Muntah ( )	Muntah ( )	Muntah ( )	Muntah ( )
Sakit Perut ( )	Sakit Perut ( )	Sakit Perut ( )	Sakit Perut ( )	Sakit Perut ( )	Sakit Perut ( )	Sakit Perut ( )

Hari 8	Hari 9	Hari 10	Hari 11	Hari 12	Hari 13	Hari 14
Tarikh: …….…….….....	**Tarikh:** …….…….….....	**Tarikh:** …….…….….....	**Tarikh:** …….…….….....	**Tarikh:** …….…….….....	**Tarikh:** …….…….….....	**Tarikh:** …….…….….....
Gejala ILI:	**Gejala ILI:**	**Gejala ILI:**	**Gejala ILI:**	**Gejala ILI:**	**Gejala ILI:**	**Gejala ILI:**
Demam ( )	Demam ( )	Demam ( )	Demam ( )	Demam ( )	Demam ( )	Demam ( )
Batuk ( )	Batuk ( )	Batuk ( )	Batuk ( )	Batuk ( )	Batuk ( )	Batuk ( )
Sakit Tekak ( )	Sakit Tekak ( )	Sakit Tekak ( )	Sakit Tekak ( )	Sakit Tekak ( )	Sakit Tekak ( )	Sakit Tekak ( )
Sakit Sendi ( )	Sakit Sendi ( )	Sakit Sendi ( )	Sakit Sendi ( )	Sakit Sendi ( )	Sakit Sendi ( )	Sakit Sendi ( )
Cirit ( )	Cirit ( )	Cirit ( )	Cirit ( )	Cirit ( )	Cirit ( )	Cirit ( )
Muntah ( )	Muntah ( )	Muntah ( )	Muntah ( )	Muntah ( )	Muntah ( )	Muntah ( )
Sakit Perut ( )	Sakit Perut ( )	Sakit Perut ( )	Sakit Perut ( )	Sakit Perut ( )	Sakit Perut ( )	Sakit Perut ( )

NOTA:
Bilangan hari pemantauan perlu ditambah mengikut kesesuaian, terutama sekali jika individu terlibat mempunyai pendedahan yang berulang-ulang kepada kes terbabit.

Monitoring Form For Personnel Potentially Exposed To Middle East Respiratory Syndrome (MERS) Infection

Name	:	
I/C number	:	
Telephone numbers	:	Mobile: …….. Home: ……..
Job title	:	
Work location	:	
Date(s) of Exposure*	:	
Type of contact with patient with potential MERS infection, with patient’s environment or with virus / clinical specimen	:	

** List ALL, use back of page if necessary*

Was the following personal protective equipment (PPE) used during the encounter whereby the status of the respective patient is yet to be categorized as probable or confirmed for MERS?

Type of PPE	Yes	No	Don’t Know
Gown			
Gloves			
Particulate respirator			
Medical mask			
Eye protection			
Other (please specify): ……..			

List any possible non-occupational exposures (e.g. exposure to anyone with severe acute febrile respiratory illness, excluding the potential patient or the relevant clinical specimen):

……

Daily Monitoring Table

Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
Date …….../……./….....	Date …….../……./….....	Date …….../……./….....	Date …….../……./….....	Date …….../……./….....	Date …….../……./….....	Date …….../……./….....
AM Temp. (°C): ……..	AM Temp. (°C): ……..	AM Temp. (°C): ……..	AM Temp. (°C): ……..	AM Temp. (°C): ……..	AM Temp. (°C): ……..	AM Temp. (°C): ……..
PM Temp. (°C): ……..	PM Temp. (°C): ……..	PM Temp. (°C): ……..	PM Temp. (°C): ……..	PM Temp. (°C): ……..	PM Temp. (°C): ……..	PM Temp. (°C): ……..
ILI symptoms: No ( ) Yes ( )	ILI symptoms: No ( ) Yes ( )	ILI symptoms: No ( ) Yes ( )	ILI symptoms: No ( ) Yes ( )	ILI symptoms: No ( ) Yes ( )	ILI symptoms: No ( ) Yes ( )	ILI symptoms: No ( ) Yes ( )

Day 8	Day 9	Day 10	Day 11	Day 12	Day 13	Day 14
Date …….../……./….....	Date …….../……./….....	Date …….../……./….....	Date …….../……./….....	Date …….../……./….....	Date …….../……./….....	Date …….../……./….....
AM Temp. (°C): ……..	AM Temp. (°C): ……..	AM Temp. (°C): ……..	AM Temp. (°C): ……..	AM Temp. (°C): ……..	AM Temp. (°C): ……..	AM Temp. (°C): ……..
PM Temp. (°C): ……..	PM Temp. (°C): ……..	PM Temp. (°C): ……..	PM Temp. (°C): ……..	PM Temp. (°C): ……..	PM Temp. (°C): ……..	PM Temp. (°C): ……..
ILI symptoms: No ( ) Yes ( )	ILI symptoms: No ( ) Yes ( )	ILI symptoms: No ( ) Yes ( )	ILI symptoms: No ( ) Yes ( )	ILI symptoms: No ( ) Yes ( )	ILI symptoms: No ( ) Yes ( )	ILI symptoms: No ( ) Yes ( )

NOTE:

- *The influenza-like illness (ILI) symptoms include fever (≥ 38°C), cough, sore throat, arthralgia, myalgia, prostration and gastrointestinal symptoms (e.g. diarrhoea, vomiting, abdominal pain).*
- *The number of days needs to be increased if the personnel have repeated encounters / exposures to the respective patient.*

*TATACARA PENILAIAN KESIHATAN KENDIRI
(UNTUK DIAGIHKAN KEPADA KONTAK)

Anda adalah dinasihatkan untuk mendapatkan rawatan perubatan sekiranya pada bila-bila masa anda mengalami mana-mana gejala dan tanda seperti berikut:

- Gejala demam dan batuk dan/atau sakit tekak
- Kesukaran bernafas – tercungap cungap, pernafasan menjadi laju atau warna bibir bertukar menjadi kebiruan
- Batuk berdarah
- Sakit dada yang berterusan
- Cirit birit dan/atau muntah yang berterusan
- Demam yang berpanjangan sehingga melebihi 3 hari atau demam yang berulang semula selepas 3 hari
- Perubahan tingkah laku, kurang responsif, keliru dan / atau sawan
- Mudah merasa pening/pusing apabila berdiri
- Kurang buang air kecil (daripada kebiasaannya)

Amalkan langkah-langkah mudah berikut apabila anda jatuh sakit:

- **SEGERA** maklumkan kepada pihak Pejabat Kesihatan Daerah yang berkaitan bagi membolehkan tindakan selanjutnya dijalankan.
- Hadkan pergaulan dengan mereka yang sihat di sekeliling anda
- Tutup mulut dan hidung anda menggunakan tisu apabila anda batuk dan bersin. Sejurus selepas itu, buang tisu yang telah digunakan ke dalam tong sampah
- Amalkan adab batuk yang baik
- Sentiasa mengamalkan tahap kebersihan diri yang tinggi seperti kerap mencuci tangan dengan menggunakan air dan sabun atau bahan pencuci tangan (*hand sanitizer*), terutamanya selepas batuk atau bersin. Pakai penutup mulut dan hidung (*mask*) apabila terpaksa berhubung/ berurusan dengan orang lain

***Nota:** Untuk disimpan oleh mereka yang menerimanya bagi tempoh 14 hari seterusnya*

Untuk Diisi Oleh Petugas KKM		
Tarikh Disampaikan Kepada Kontak :		Diedarkan Oleh Petugas PKD ……..... Sebarang pertanyaan, sila hubungi:
Tarikh Akhir Pendedahan Kepada Kes :		
Tarikh Tamat Survelan 14 hari		

**HOME ASSESSMENT TOOL (TO BE GIVEN TO THE CONTACTS)*

You are advised to seek medical care should you develop any of the symptoms and signs listed as below:

- *Fever and cough and/or sore throat*
- *Respiratory difficulties – shortness of breath, rapid breathing or purple/blue discolouration of the lips*
- *Coughing out blood or blood streaked sputum*
- *Persistent chest pains*
- *Persistent diarrhea and/or vomiting*
- *Fever persisting beyond 3 days or recurring after 3 days*
- *Abnormal behavior, confusion, less responsive, convulsion*
- *Dizziness when standing and/or reduced urine production*

Practice these simple steps if you are sick:

- ***IMMEDIATELY** notify the respective District Health Office of your status to enable relevant action to be taken*
- *While sick, limit contact with others as much as possible to keep from infecting them*
- *Cover your mouth and nose using tissue whenever you cough or sneeze. Throw the tissue in the thrash after you use it*
- *Always follow cough etiquette*
- *Always maintain good personal hygiene and cleanliness. Wash your hands often with soap and water, especially after coughing or sneezing. If soap and water are not available, use hand sanitizer. Use face mask whenever being in public or close contact with people*

***Note:** This is to be kept by those who receive it, for 14 days from the date of receiving it*

To Be Filled By MOH Personnel		
Date Given to the Contact :		Distributed by the District Health Office (PKD) of ……. Any questions? Kindly contact:
Date of Last Exposure to the Case :		
Date When the 14-Days Surveillance Ended :		

KEMENTERIAN KESIHATAN MALAYSIA

Fail Rujukan:

Pejabat Kesihatan Daerah
……
……
……
……
No. Telefon: ……..

Kepada:

Nama: ……..
No. Kad Pengenalan: ……..
Alamat: ……
……
……

Perintah Pengawasan Dan Pemerhatian Di Rumah Kediaman Bagi Kontak Jangkitan *Middle East Respiratory* (MERS) Di Bawah Seksyen 15(1) Akta Pencegahan Dan Pengawalan Penyakit Berjangkit 1988 (Akta 342)

Tuan/Puan telah dikenalpasti sebagai kontak terdekat kepada seorang yang telah disahkan menghidapi jangkitan MERS dan berkemungkinan Tuan/Puan telah terdedah kepada jangkitan itu. Seksyen 15(1) Akta Pencegahan dan Pengawalan Penyakit Berjangkit 1988, memperuntukkan kuasa kepada mana-mana pegawai yang diberikuasa untuk memerintahkan Tuan/Puan diasingkan di rumah bergantung kepada keperluan epidemiologi penyakit tersebut.

2. Bagi menjalankan kuasa di bawah Seksyen 15(1) Akta 342, saya ……., pegawai diberikuasa untuk meletakkan Tuan/Puan di bawah pengawasan dan pemerhatian di rumah seperti alamat di atas dengan syarat-syarat seperti dinyatakan di ‘**Lampiran A**’.

3. Sepanjang tempoh Tuan/Puan diletakkan di bawah pengawasan dan pemerhatian, Tuan/Puan adalah dikehendaki mematuhi segala perintah yang ditetapkan. Di bawah Seksyen 24 Akta yang sama, kegagalan mematuhi perintah ini, jika disabitkan kesalahan boleh dihukum bagi kesalahan pertama, dipenjara selama tempoh tidak melebihi 2 tahun atau didenda atau kedua-dua sekali, berkenaan dengan kesalahan kedua atau kesalahan berikutnya boleh dipenjara tidak melebihi 5 tahun atau denda atau kedua-duanya; berkenaan dengan kesalahan berterusan, didenda selanjutnya tidak melebihi dua ratus bagi tiap-tiap hari kesalahan ini berterusan.

Pegawai Yang Diberikuasa		
Nama	**:**	
Jawatan	**:**	
Tarikh & Masa	**:**	
Pengesahan Menerima Sesalinan Perintah Oleh Kontak Yang Diletakkan Di Bawah Pengawasan		
Nama	**:**	
No. Kad Pengenalan	**:**	
Tarikh & Masa	**:**	
Tandatangan	**:**	

‘**Lampiran A**’

Perintah Pengawasan Dan Pemerhatian Di Rumah Kediaman Bagi Kontak Jangkitan *Middle East Respiratory Syndrome* (MERS) Di Bawah Seksyen 15(1) Akta Pencegahan Dan Pengawalan Penyakit Berjangkit 1988 (Akta 342)

Tindakan Yang Perlu Dilakukan Semasa Dalam Tempoh Pemerhatian Dan Pengawasan

A. Tinggal Di Rumah Kediaman Beralamat Di Atas

i. Hendaklah tinggal di rumah kediaman seperti di alamat yang dinyatakan sepanjang masa bermula dari …… hingga ……..

ii. Anda dikehendaki mengasingkan diri daripada ahli keluarga yang lain, umpamanya berada di bilik yang berasingan. Sekiranya perlu berinteraksi dengan ahli keluarga, anda dikehendaki untuk memakai penutup mulut dan hidung (*mask*).

iii. Aturkan dengan waris / saudara mara / rakan untuk membeli keperluan harian.

iv. Jika anda terpaksa pergi ke suatu tempat kerana tidak dapat ditangguhkan, sila hubungi dan dapatkan nasihat daripada Pegawai Kesihatan Daerah di nombor telefon: …….

v. Jika anda memerlukan bantuan mengenai keperluan harian, sila hubungi nombor telefon: ……..

vi. Elakkan daripada berhubung secara dekat dengan ahli-ahli keluarga / rakan-rakan. Sekiranya saudara mara, shabat handai menziarahi anda – adalah menjadi tanggungjawab anda untuk mencatatkan nama, nombor telefon dan tarikh kunjungan mereka.

vii. Pasangan, anak-anak, adik beradik atau mana-mana individu lain yang tinggal serumah tetapi TIDAK dikenakan perintah pengawasan dan pemerhatian di rumah adalah BEBAS untuk melakukan aktiviti seharian mereka.

B. Pemeriksaan Saringan

i. Anda dikehendaki untuk menjalani dua (2) ujian saringan semasa menjalani perintah pengawasan dan pemerhatian di rumah kediaman:
   - Ujian saringan pertama akan dilaksanakan pada hari pertama anda mula menjalani perintah terbabit;
   - Ujian saringan kedua akan dilaksanakan pada hari keempat belas (14) selepas ujian saringan pertama dijalankan.

ii. Jenis ujian yang akan dilaksanakan adalah melibatkan pengambilan sampel palitan *nasopharyngeal* (NP) dan *oropharyngeal* (OP) oleh anggota kesihatan / perubatan yang dikenalpasti.

iii. Anda hanya akan diberi pelepasan daripada menjalani perintah pengawasan dan pemerhatian dirumah apabila ujian saringan kedua adalah disahkan negatif.

C. Periksa Gejala Jangkitan

i. Periksa suhu badan setiap hari dan keadaan ini perlu dipantau selama EMPAT BELAS (14) hari bermula dari tarikh ……

ii. Penutup mulut dan hidung (*mask*) hendaklah dipakai sepanjang masa jika anda demam atau batuk sebelum bantuan perubatan tiba.

iii. Jika anda mengalami mana-mana gejala dan tanda seperti berikut, **SEGERA** hubungi Pegawai Kesihatan Daerah di nombor telefon: …….…… untuk tindakan selanjutnya:

- Gejala demam dan batuk dan/atau sakit tekak
- Kesukaran bernafas – tercungap cungap, pernafasan menjadi laju atau warna bibir bertukar menjadi kebiruan;
- Batuk berdarah;
- Sakit dada yang berterusan;
- Cirit birit dan/atau muntah yang berterusan;
- Demam yang berpanjangan sehingga melebihi 3 hari atau demam yang berulang semula selepas 3 hari;
- Perubahan tingkah laku, kurang responsif, keliru dan/atau sawan;
- Mudah merasa pening/pusing apabila berdiri;
- Kurang buang air kecil (daripada kebiasaannya).

D. Amalkan Kebersihan Diri

i. Sentiasa amalkan tahap kebersihan diri yang tinggi seperti kerap mencuci tangan dengan menggunakan air dan sabun atau bahan pencuci tangan (*hand sanitizer*), terutamanya selepas batuk atau bersin.

ii. Amalkan adab batuk yang baik. Tutup mulut dan hidung anda menggunakan tisu apabila anda batuk dan bersin. Sejurus selepas itu, buang tisu yang telah digunakan ke dalam tong sampah bertutup.

iii. Dapatkan pengudaraan yang baik di dalam rumah.

iv. Bersihkan permukaan dan objek yang mungkin dicemari dengan kahak, cecair batuk/bersin atau bendalir serupa yang keluar dari hidung atau mulut dengan menggunakan bahan cucian seperti c*hlorox.* Bancuhan yang disyorkan ialah 1 bahagian *chlorox* kepada 50 bahagian air.

E. Perkara-Perkara Yang Dilarang

i. Menanggalkan penutup mulut dan hidung (*mask*) apabila dikunjungi oleh waris atau tetamu.

ii. Meninggalkan rumah kediaman beralamat di atas bagi tujuan membeli belah, bersiar-siar ke padang permainan atau ke tempat awam.

PERINGATAN

Pemeriksaan mengejut akan dilakukan bagi memastikan perintah-perintah di atas dipatuhi dan kegagalan mematuhi perintah-perintah di atas boleh menyebabkan tindakan mahkamah dikenakan ke atas Tuan/Puan.

MINISTRY OF HEALTH MALAYSIA

Our Ref.:

District Health Office
……
……
……
……
Telephone No: ……..

To:

Name: ……..
Identification Card / Passport No: ……..……..
Address: ……
……
……..

Order For Supervision And Observation At Home For Contact Of Middle East Respiratory Syndrome (MERS) Infection Under Section 15(1) Prevention And Control Of Infectious Disease Act 1988 (Act 342)

You had been identified as contact to a confirmed case of MERS infection and there’s possibility that you may have been exposed MERS infection. Under Section 15(1) Prevention and Control of Infectious Diseases Act 1988 (Act 342), an authorized officer may order you to be isolated at home based on epidemiological needs of the said infection.

2. To carry out the order under section 15(1) Act 342, I ……..., the authorized officer hereby place you under the order for supervision and observation at home as per address above with conditions as set out in ‘**Appendix A**’.

3. During the specified duration that you’re placed under supervision and observation, you are required to comply with the order prescribed. Under Section 24 of the same Act, failure to comply with this order, if convicted; in respect of a first offence, to imprisonment for a term not exceeding two years or to fine or both; in respect of a second or subsequent offence, to imprisonment not exceeding five years or to fine or both; in respect of a continuing offence, to a further fine not exceeding two hundred ringgit for every day during which such offence continues.

The Authorized Officer	
Name :	
Designation :	
Date & Time :	
Confirmation On Receiving A Copy Of The Order By The Individual Placed Under Supervision	
Name :	
IC / Passport No. :	
Date & Time :	
Signature :	

‘**Appendix A**’

Supervision And Observation Order At Home For Contact Of Middle East Respiratory Syndrome (MERS) Infection Under Section 15(1) Prevention And Control Of Infectious Disease Act 1988 (Act 342)

Actions To Be Adhered To During The Supervision And Observation Period

A. Stay In Home As Per Address Above

i. Mandatory to stay at the home as per address above starting from …… till …… at all time.
ii. At all time, maintain isolation from other family members, for example, living in a separate room. If need arise to interact with other family members, wear a mask.
iii. Make arrangement with family members / friends for procument of daily needs.
iv. If you have to leave the home for emergency reasons, kindly contact and seek advice from the District Health Officer concerned at this number: ……
v. If assistance required for procument of daily needs, please contact: ……
vi. As possible, avoid interactions with family members / friends. If family members / friends visited you, it is your responsibility to register their name, contact number and date of their visit.
vii. The spouse, children, siblings and any other dwellers in the same house who are NOT subjected under similar order are FREE to continue with their daily routine.

B. Screening Test

i. Screening test will be conducted twice (2) during you stay at home under the supervision and observation order:
    - First screening test will be conducted on day one of the issuance of the order;
    - Second screening test will be conducted 14 days later.
ii. Types of samples involved are nasopharyngeal (NP) and oropharyngeal (OP) swabs, which will be taken by the designated personnel.
iii. If your second screening test is negative, you will be released from undergoing the supervision and observation order.

C. Observation Of Infection Symptoms

i. Monitor body temperature daily for duration of FOURTEEN DAYS (14) beginning from this date: ……
ii. Face mask must be worn at all time if you have a fever or cough prior to arrival of medical assistance.

iii. If you are experiencing any of the following symptoms, **IMMEDIATELY** inform the District Health Officer concerned at this telephone number:…… for further management:

- Fever and cough and/or sore throat
- Difficulty in breathing – gasping for breath, fast breathing or lip colour turns bluish;
- Coughing out blood;
- Continuous chest pain;
- Prolong diarrhoea and / or vomiting;
- Continuous fever for more than 3 days or recurring fever after 3 days;
- Change in behavior, less responsive, confused and / or convulsions;
- Easily feels dizziness / dizziness when standing up
- Reduced urination (than usual).

D. Maintain Personal Hygiene

i. Maintain good personal hygiene such as frequent hand washing with soap and water or hand sanitizer, especially after coughing or sneezing.

ii. Practice good cough etiquette. Cover your mouth and nose with a tissue when coughing or sneezing. Immediately after that, dispose of the soil tissue into a close dustbin.

iii. Maintain good ventilation in the house.

iv. Clean surfaces and objects that may be contaminated with phlegm, cough / sneezing fluids or similar fluid from the nose or mouth using disinfectant solutions such as Clorox. The recommended mix is 1 part of clorox to 50 parts of water.

E. Prohibited Matters

i. Removal of face mask when visited by relatives or friends.

ii. Leaving the home as per address above for grocery shopping, strolling to the playground or visiting public places.

WARNING

Checks will be conducted from time to time to ensure that the above mentioned commands are complied with and failure to comply with these commands may subject you to be imposed with court action.

KEMENTERIAN KESIHATAN MALAYSIA

Fail Rujukan:

Kepada:

Nama: ……..
No. Kad Pengenalan: ……..
Alamat: ……
……..
……..

Pelepasan Dari Menjalani Perintah Pengawasan Dan Pemerhatian Di Rumah Kediaman Bagi Kontak Jangkitan *Middle East Respiratory Syndrome* (MERS) Di Bawah Seksyen 15(1) Akta Pencegahan Dan Pengawalan Penyakit Berjangkit 1988 (Akta 342)

Dengan segala hormatnya perkara di atas adalah dirujuk.

2. Terdahulu, Tuan/Puan telah dikenalpasti sebagai kontak terdekat kepada seorang yang telah disahkan menghidapi jangkitan MERS dan Tuan/Puan telah dikenakan Perintah Pengawasan Dan Pemerhatian di rumah kediaman sebagaimana yang tertakluk di bawahSeksyen 15(1) Akta Pencegahan dan Pengawalan Penyakit Berjangkit 1988 (Akta 342) bermula dari …… hingga ……..

3. Hasil pemeriksaan yang dijalankan oleh pihak kami mendapati status kesihatan Tuan/Puan adalah memuaskan. Oleh itu, Tuan/Puan adalah diberikan pelepasan dari menjalani pemerhatian dan pengawasan di bawah Akta 342, bermula dari tarikh seperti tersebut di bawah. Perhatian dan kerjasama yang telah Tuan/Puan berikan berhubung perkara ini adalah amat dihargai.

Sekian, terima kasih.

Pegawai Yang Diberikuasa		
Nama	**:**	
Jawatan	**:**	
Tempat Bertugas & No. Telefon	**:**	
Tarikh & Masa	**:**	

MINISTRY OF HEALTH MALAYSIA

Our Ref.:

To:

Name: ……..
Identification Card / Passport No: ……..
Address: ……
……..
……..

Release From Undergoing Supervision And Observation Order At Home For Contact Of Middle East Respiratory Syndrome (MERS) Infection Under Section 15(1) Prevention And Control Of Infectious Disease Act 1988 (Act 342)

With regards to the above mentioned.

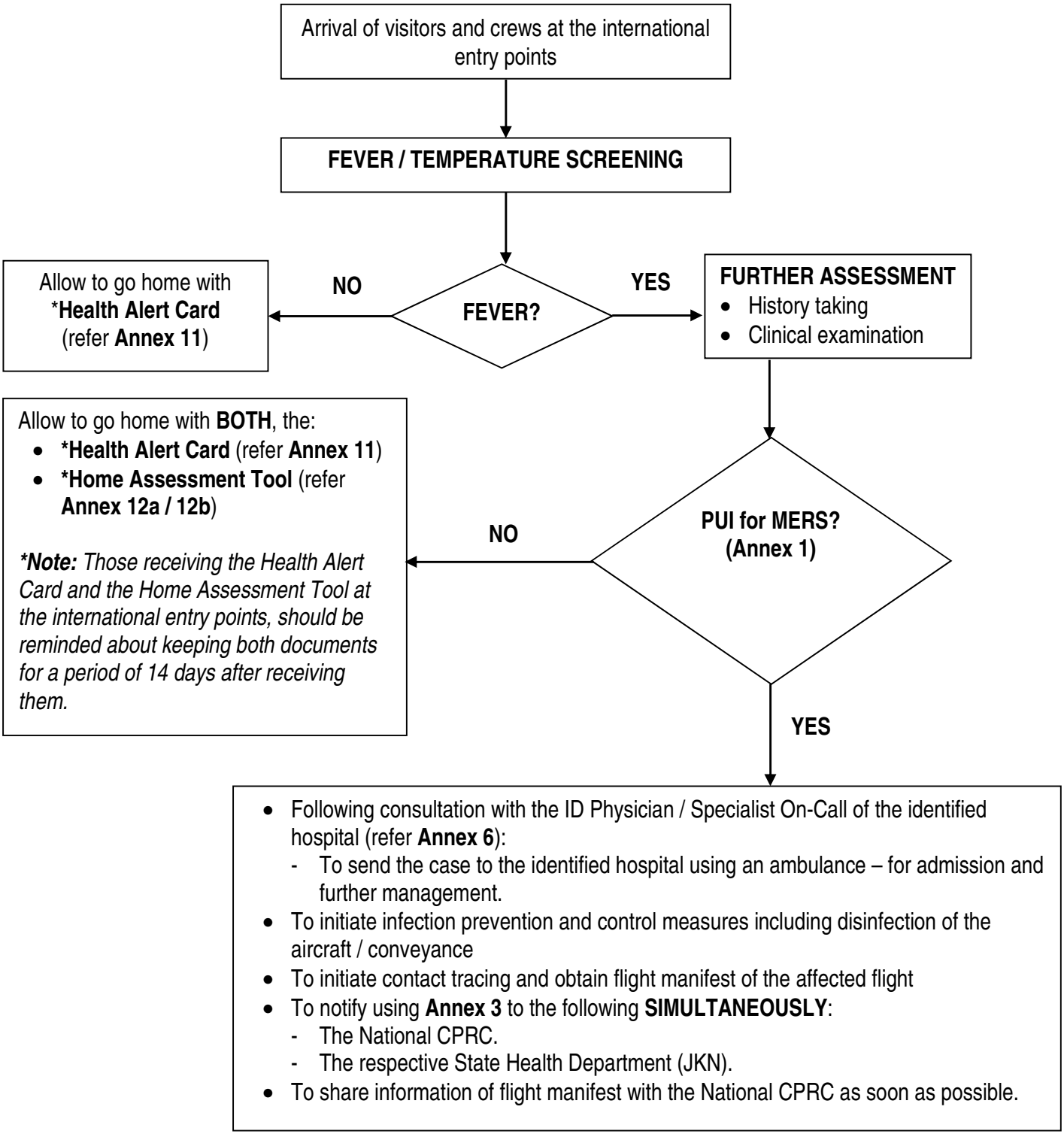
2. Earlier, you had been identified as one of the close contacts to a confirmed case of MERS infection and you had been ordered for Supervision and Observation at home under Section 15(1) Prevention And Control Of Infectious Disease Act 1988 (Act 342); starting from …….. till …….

3. Following the assessment carried out by our Ministry, your health status was found to be satisfactory. Therefore, you are given clearance from undergoing supervision and observation 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 Visitors And Crews
Arriving From Middle Eastern Countries Or Affected Countries With Active Transmission
At The International Entry Points



NOTE: Kindly refer to the following annexes for further information:

i. Management of MERS-CoV Related Events by the International Entry Point, Health Office (**Annex 23b**).
ii. Public Health Passenger Locator Card (**Annex 23c**).

Management Of MERS Related Events
By The International Entry Point, Health Office

Introduction

The pilot in command of an aircraft shall inform air traffic control, as early as possible before arrival, of any cases of illness indicative of a disease of an infectious nature or evidence of a public health risk on board. This information must be relayed immediately / as soon as possible by air traffic control to the competent authority for the destination airport, according to procedures established in IHR (2005), Article 28.4 and ICAO Procedure for Air Navigation Services – Air Traffic Management (PANS-ATM, Document ICAO PANS-ATM 16.6). In summary:

- Pilot report to air traffic services (ATS);
- ATS reports to destination (and departure) ATS unit;
- Destination ATS unit reports to public health authority / competent authority for the airport;
- Public health authority / competent authority contacts airlines operating agency to obtain further detail of illness.

To effectively manage a public health event on board an aircraft and to minimize the adverse effect of such events on travellers and airport operations, the relevant competent authority (i.e. the International Entry Point, Health Office) shall take action according to the national public health surveillance and response procedures, the airport emergency plan regarding public health events and international requirements.

As such, the following guidance are provided in relation to potential MERS related events (e.g. sudden worsening of symptoms / death of sick passenger who was either a resident of or traveller from Middle Eastern countries or other countries with active transmission; where MERS virus is believed to be circulating 14 days before onset of illness):

1. Parking Position of Aircraft

- The pilot in command (PIC) needs to be advised where to park the aircraft – such information will normally be communicated to the PIC by air traffic control. The decision will usually be taken by the International Entry Point, Health Office in consultation with airline and airport authorities.

2. Disembarkation of Travellers

- At the arrival airport, all travellers on the aircraft should follow national public health procedures regarding the need for health information (including completion of passenger locator cards or other documents) and further checks.
- It is recommended that completed passenger locator cards be collected from travellers seated in the same row, two rows in front and two rows behind the ill traveller (i.e. a total of five rows). If such cards are not available on the aircraft they should be provided (Refer **Annex 23c**) and completed at the arrival airport in order that travellers may be located at a later date by public health authorities.
- In addition, other fellow travellers who may have been seated beyond the two rows in front and two rows behind, but nevertheless had close contact with ill passenger during this travel; such as family members, other

members of a travel group or having cared for or lived with him / her, as well other ill person on-board – may be required to provide information concerning their destination in case they may need to be contacted later.

- The sick / deceased traveller is transfer to the designated hospital for assessment, treatment, isolation or post-mortem examination, respectively.

3. Close Contacts Identification & Follow-Up

- The other travellers must be informed that if any symptoms and signs of influenza-like illness (e.g. fever, cough, headache, body aches, sore throat, runny nose and sometimes include vomiting or diarrhoea) develop within the next 14 days, they should seek medical help and inform the health care provider about his / her travel history.

4. Occupational Health of Airline Crew Members

- Airline crew members may be exposed to the sick / deceased passenger. Therefore, they should follow the (same) practices and instructions described above.
- Routine infection prevention and control, such as hand hygiene and control of the source of infection through social distancing and cough etiquette (including wearing of masks by symptomatic individuals) are important control measures and should be followed by the crew if they are symptomatic.

5. Management of Crew Members Exposure Following Completion of Flight

- Crew members who may have been exposed to the sick / deceased passenger should monitor their health for 14 days following the exposure. They can continue to work as per their original schedule unless they become ill with influenza-like symptoms.
- If they do become ill with influenza-like symptoms, including fever, cough, headache, body aches, sore throat, runny nose and sometimes include vomiting or diarrhoea, they should immediately take the following steps:
  - Stays at home except to seek medical care, do not report to work.
  - Notify their employer.
  - Contact their occupational health service or personal physician.
  - Inform the occupational health service, clinic or emergency room about the possible on-board exposure to the illness, following the event.
  - Limit contact with others as much as possible.
  - When not alone or in a public place, wear a mask.

6. Cleaning & Disinfection

- Cleaning refers to the removal of visible dirt or particles, while disinfection refers to the measures taken to control, deactivate or kill infectious agents such as viruses and bacteria.
- Cleaning and disinfection on aircraft require special attention since it is necessary to use agents that are not corrosive or otherwise detrimental to aircraft components. It is therefore necessary to exercise caution in selecting suitable products and before applying them in the cabin. In addition, manufacturer's instructions must be followed carefully to protect the health of the cleaning personnel and to ensure effective action.

- Cleaning crews need to be adequately trained for routine cleaning and disinfection procedures and also for those to be implemented following a communicable disease event, since the requirements are likely to differ.
- Exposure to body fluids (such as respiratory secretions or blood), vomit or faeces may involve a risk of infection if not properly contained. Cleaning crews therefore need to follow the procedures that will ensure effective cleaning and disinfection and protect their health, using appropriate personal protective equipment. For more detailed technical guidance see the Guide to Hygiene and Sanitation in Aviation, which is available at: http://www.who.int/water_sanitation_health/hygiene/ships/guide_hygiene_sanitation_aviation_3_edition.pdf

Public Health Passenger Locator Form: To protect your health, public health officers need you to complete this form whenever they suspect a communicable disease onboard a flight. Your information will help public health officers to contact you if you were exposed to a communicable disease. It is important to fill out this form completely and accurately. Your information is intended to be held in accordance with applicable laws and used only for public health purposes. ~***Thank you for helping us to protect your health.***

One form should be completed by an adult member of each family. Print in capital (UPPERCASE) letters. Leave blank boxes for spaces.

FLIGHT INFORMATION: **1. Airline name** | **2. Flight number** | **3. Seat number** | **4. Date of arrival (yyyy/mm/dd)** 2 0

PERSONAL INFORMATION: **5. Last (Family) Name** | **6. First (Given) Name** | **7. Middle Initial** | **8. Your sex** Male ☐ Female ☐

PHONE NUMBER(S) where you can be reached if needed. Include country code and city code.

9. Mobile | **10. Business**

11. Home | **12. Other**

13. Email address

PERMANENT ADDRESS: **14. Number and street** ***(Separate number and street with blank box)*** | **15. Apartment number**

16. City | **17. State/Province**

18. Country | **19. ZIP/Postal code**

TEMPORARY ADDRESS: If you are a visitor, write only the first place where you will be staying.

20. Hotel name (if any) | **21. Number and street** ***(Separate number and street with blank box)*** | **22. Apartment number**

23. City | **24. State/Province**

25. Country | **26. ZIP/Postal code**

EMERGENCY CONTACT INFORMATION of someone who can reach you during the next 30 days

27. Last (Family) Name | **28. First (Given) Name** | **29. City**

30. Country | **31. Email**

32. Mobile phone | **33. Other phone**

34. TRAVEL COMPANIONS – FAMILY: Only include age if younger than 18 years

	Last (Family) Name	First (Given) Name	Seat number	Age <18
(1)				
(2)				
(3)				
(4)				

35. TRAVEL COMPANIONS – NON-FAMILY: Also include name of group (if any)

	Last (Family) Name	First (Given) Name	Group *(tour, team, business, other)*
(1)			
(2)			

NASIHAT KESIHATAN BERKAITAN JANGKITAN *MIDDLE EAST RESPIRATORY SYNDROME* (MERS) UNTUK PARA PELAWAT YANG PULANG DARI NEGARA-NEGARA PENULARAN AKTIF

Buat masa ini, pihak Pertubuhan Kesihatan Sedunia (WHO) tidak mengeluarkan sebarang larangan lawatan ke negara-negara yang terlibat. Namun begitu, orang awam yang ingin mengadakan lawatan ke mana-mana negara di Semenanjung Arab dan negara-negara yang kini melaporkan kejadian wabak jangkitan MERS, pihak KKM ingin menasihatkan mengenai perkara-perkara berikut:

i) Selalu mengamalkan tahap kebersihan diri yang tinggi seperti kerap mencuci tangan dengan menggunakan air dan sabun atau bahan pencuci tangan (*hand sanitizer*), terutamanya selepas batuk, bersin atau selepas bersalaman;

ii) Semasa dalam tempoh lawatan, sentiasa membawa bersama penutup mulut dan hidung (*mask*) serta bahan pencuci tangan (*hand sanitizer*) untuk digunakan apabila perlu;

iii) Semasa dalam tempoh lawatan, elakkan dari mengunjungi kediaman atau institusi penjagaan kesihatan yang terlibat dalam kejadian jangkitan wabak MERS di negara tersebut;

iv) Khusus bagi para pelawat ke negara di Semenanjung Arab, semasa dalam tempoh lawatan:

- Elakkan dari melawat ke ladang haiwan atau menyentuh sebarang jenis haiwan, khususnya unta.
- Elakkan dari minum susu unta mentah atau air kencing unta.
- Elakkan dari makan makanan yang tidak dimasak dengan sempurna, terutama sekali daging unta.

v) Mereka yang pulang dari lawatan ke negara-negara yang terlibat, khususnya dalam tempoh 14 hari setelah tiba di Malaysia, sekiranya mengalami gejala demam dan jangkitan respiratori (seperti batuk dan kesukaran bernafas) adalah dinasihatkan untuk mendapatkan rawatan segera serta memaklumkan mengenai sejarah perjalanan mereka kepada doktor yang merawat. Sebaik mengalami gejala tersebut, hadkan pergaulan dengan individu sihat di sekeliling dan pakai penutup mulut dan hidung (face mask) apabila terpaksa berhubung / berurusan dengan orang lain.

Disediakan Oleh:
Bahagian Kawalan Penyakit
Kementerian Kesihatan Malaysia

HEALTH ADVISORY FOR TRAVELLERS TO *MIDDLE EAST RESPIRATORY SYNDROME* (MERS) AFFECTED COUNTRIES

World Health Organization (WHO) does not advise any travel or trade restrictions to the *Middle East Respiratory Syndrome Coronavirus* (MERS) affected countries. Based on the current situation in Arabian Peninsula and other affected countries, Ministry of Health Malaysia would like to advise, travellers going to the Arabian Peninsula and other affected countries:

i) To practice good personal hygiene as the following:

- Wash hands often with soap and water. If soap and water are not available, use an alcohol-based hand sanitizer and bring along during travelling.

- Avoid touching eyes, nose, and mouth because germs spread this way.

- Wear face mask when necessary, especially when going to crowded places.

ii) To avoid unnecessary visit to households or healthcare settings that have been affected by MERS outbreak.

iii) To avoid close contact with sick people.

iv) For travellers going to the Arabian Peninsula, they should:

- Avoid contact with camels.
- Do not drink raw camel milk or raw camel urine.
- Do not eat undercooked meat, particularly camel meat.

v) Should seek prompt medical attention if having symptoms suggestive of MERS infection (i.e. fever and symptoms of lower respiratory illness, such as cough or shortness of breath), within 14 days upon returning to Malaysia. It is important that they mention about their recent travel history to the attending doctor.

vi) To limit contact with others as much as possible – once symptomatic.

Prepared by:
Disease Control Division
Ministry of Health Malaysia

Frequently Asked Questions (FAQ) On Middle East Respiratory Syndrome (MERS)

What is Middle East respiratory syndrome (MERS)?

Middle East respiratory syndrome (MERS) is a viral respiratory disease caused by a coronavirus (MERS) that was first identified in Saudi Arabia in 2012. Coronaviruses are a large family of viruses that can cause diseases ranging from the common cold to Severe Acute Respiratory Syndrome (SARS).

Where has MERS occurred?

The following 26 countries have reported cases of MERS:

- In 2012: Germany, Jordan, Saudi Arabia, United Kingdom;
- In 2013: France, Germany, Italy, Kuwait, Oman, Qatar, Saudi Arabia, Tunisia, United Arab Emirates, United Kingdom;
- In 2014: Algeria, Austria, Egypt Greece Iran Jordan, Kuwait, Lebanon, Malaysia, the Netherlands, Oman Qatar Saudi Arabia Turkey, United Arab Emirates United States, Yemen;
- To date in 2015 China, Germany, Iran, Oman, Philippines, Qatar, Republic of Korea, Saudi Arabia, Thailand, United Arab Emirates.

How do people get MERS?

- **Transmission from animals to humans**
  It is not yet fully understood how people become infected with MERS, which is a zoonotic virus. It is believed that humans can be infected through direct or indirect contact with infected dromedary camels in the Middle East. Strains of MERS have been identified in camels in several countries, including Egypt, Oman, Qatar and Saudi Arabia.

- **Transmission from humans to humans**
  The virus does not appear to pass easily from person to person unless there is close contact such as providing clinical care to an infected patient while not applying strict hygiene measures. This has been seen among family members, patients, and health care workers. The majority of cases have resulted from human-to-human transmission in health care settings.

What are the symptoms of MERS? How severe is the syndrome?

A typical case of MERS includes of fever, cough, and/or shortness of breath. Pneumonia is a common finding on examination. Gastrointestinal symptoms, including diarrhoea, have also been reported. Severe disease from MERS infection can cause respiratory failure that requires mechanical ventilation and support in an intensive-care unit. Some patients have had organ failure, especially of the kidneys, or septic shock. The virus appears to cause more severe disease in people with weakened immune systems, older people, and those with such chronic diseases as diabetes, cancer and chronic lung disease.

Can a person be infected with the MERS virus and not be ill?
Yes. Infected persons with no symptoms have been found because they were tested for MERS during follow-up studies of contacts of people with MERS infection.

Is it easy to detect people with MERS?
It is not always possible to identify people with MERS early because the early symptoms are non-specific. For this reason, all health care facilities should have standard infection prevention and control practices in place for infectious diseases. It is also important to investigate the travel history of patients who present with respiratory infection.

Is MERS contagious?
Yes, but apparently only to a limited extent. The virus does not seem to pass easily from person to person unless there is close contact, such as occurs when providing unprotected care to a patient. There have been clusters of cases in health care facilities, where human-to-human transmission appears to be more efficient, especially when infection prevention and control practices are inadequate. Thus far, no sustained human-to-human transmission has been documented.

What is contact tracing and why is it important?
Those in close contact with someone who has MERS are at higher risk of infection, and of potentially infecting others if they begin to show symptoms. Closely watching such persons for 14 days from the last day of exposure will help that person to get care and treatment and will prevent the further transmission of the virus to others.

This monitoring process is called contact tracing, which can be broken down into three basic steps:

- **Contact identification:** Once a case is confirmed, contacts are identified by asking about the activities of the case and the activities and roles of the people around the case since onset of illness.
- **Contact listing:** All persons considered to have had significant exposure should be listed as contacts. Efforts should be made to physically identify every listed contact and inform them of their contact status, what it means, the actions that will follow, and the importance of receiving early care if they develop symptoms. The contact should also be provided with preventive information. In some cases, quarantine is required for some contacts, either at home, or in hospital for those with a high risk of severe disease should they be infected (e.g. persons with co-morbidities).
- **Contact follow-up:** Follow-up all the listed contacts on a daily basis.

What should an individual do if she/he has contact with a MERS case?
If you have had close contact with a confirmed MERS case within the last 14 days without using the recommended infection control precautions, you should contact a healthcare provider for an evaluation. It’s important to note, however, that most

people who had close contact with someone who had MERS did not get infected or become ill.

What is the source of the MERS virus?
The source of the MERS is not yet fully clear. A coronavirus very similar to the one found in humans has been isolated from camels in Egypt, Oman, Qatar, and Saudi Arabia. It is possible that other animal reservoirs exist, however animals including goats, cows, sheep, water buffalo, swine, and wild birds, have been tested for MERS and no trace of the virus found. These studies support the premise that dromedary camels are a likely source of infection in humans.

Should people avoid contact with camels or camel products? Is it safe to visit farms, markets, or camel fairs?
As a general precaution in Middle Eastern countries affected by MERS, anyone visiting farms, markets, barns, or other places where animals are present should practice general hygiene measures. These include regular hand washing before and after touching animals, and avoiding contact with sick animals.

The consumption of raw or undercooked animal products, including milk and meat, carries a high risk of infection from a variety of organisms that might cause disease in humans. Animal products processed appropriately through cooking or pasteurization are safe for consumption, but should also be handled with care to avoid cross-contamination with uncooked foods. Camel meat and camel milk are nutritious products that can continue to be consumed after pasteurization, cooking, or other heat treatments.

Until more is understood about MERS, people with diabetes, renal failure, chronic lung disease, and immunocompromised persons are considered to be at high risk of severe disease from MERS infection. Especially in the Middle East, this group of people should avoid contact with camels, consuming raw camel milk or camel urine, as well as eating meat that has not been properly cooked.

Camel farm and slaughterhouse workers in the affected areas should practice good personal hygiene, including frequent hand washing after touching animals, facial protection where feasible, and the wearing of protective clothing, which should be removed after work and washed daily. Workers should also avoid exposing family members to soiled work clothing, shoes, or other items that may have come into contact with camels or camel excretions. Sick animals should never be slaughtered for consumption. People should avoid direct contact with any animal that has been confirmed positive for MERS.

Is there a vaccine against MERS? What is the treatment?
No vaccine or specific treatment is currently available. Treatment is supportive and based on the patient’s clinical condition.

Are health care workers at risk from MERS?

Yes. Transmission of MERS has occurred in health care facilities in several countries, including from patients to health care providers. It is not always possible to identify patients with MERS early or without testing because symptoms and other clinical features may be non-specific.

For this reason, it is important that health care workers apply standard precautions consistently with all patients.

Droplet precautions should be added to standard precautions when providing care to all patients with symptoms of acute respiratory infection. Contact precautions and eye protection should be added when caring for suspected or confirmed cases of MERS infection. Airborne precautions should be applied when performing aerosol-generating procedures.

Source: *http://www.who.int/csr/disease/coronavirus_infections/faq/en/ (as of 12 July 2015)*
Information will be updated from time to time based on the WHO website.

Contact Details of the National Crisis Preparedness & Response Centre (CPRC), Disease Control Division and the State Health Departments

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