

Outline of Presentation

- **Part 1** - What is Novel Coronavirus ???
- **Part 2** - Surveillance and Response in relation to Case & Contacts **(MoH)**

.....*Discussion*

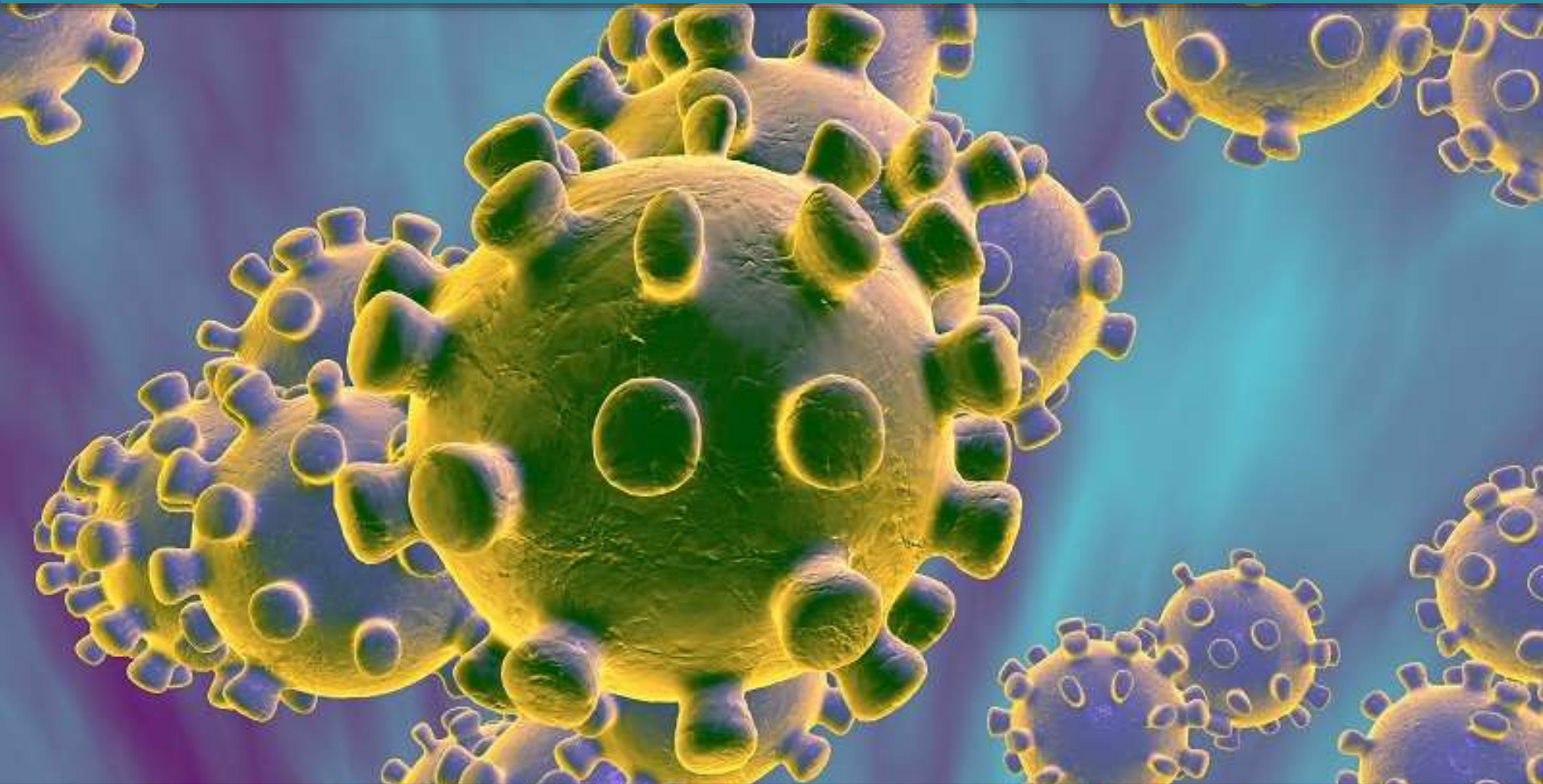
- **Part 3** - Infection Prevention and Control

- **Visit website:**

<https://www.moh.gov.om/en/corona>

<https://www.moh.gov.om/ar/corona>

Novel Coronavirus (2019-nCoV)



Dr. Nilanjan Mitra
Epidemiologist- DGHS

PART ONE

novel coronavirus

December 2019



cluster of pneumonia
cases in China

previously unknown virus

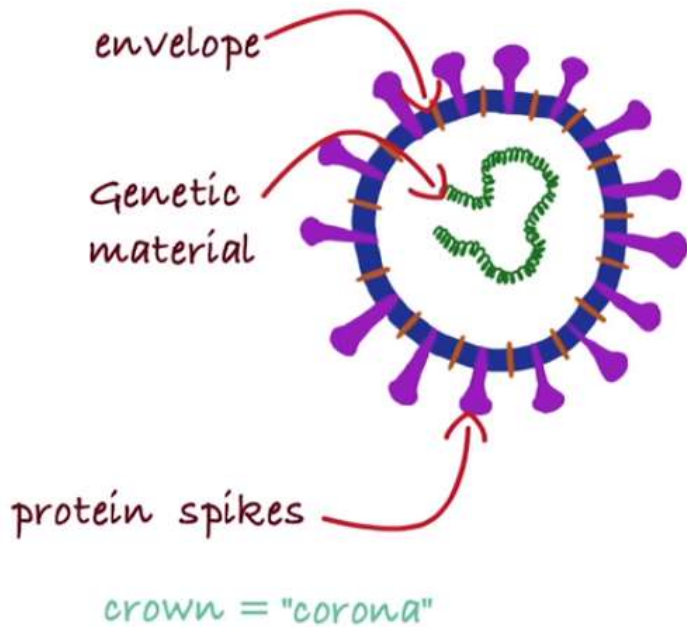


2019 Novel Coronavirus

**New type of Coronavirus that has not
previously been found in humans
Now called 2019-nCoV**

CORONAVIRUSES

large group of viruses



different types

respiratory gastrointestinal



common cold
pneumonia

generally mild disease

some cause severe disease

SARS - CoV China - 2003

MERS - CoV Saudi Arabia - 2012

2019 n - CoV China - 2019

2019 n-CoV China - 2019

Group of people → Seafood and live animal market in Wuhan



Pneumonia



sick



Family members



Healthcare workers

Others

many cases spread within China



and other countries

Outside of China

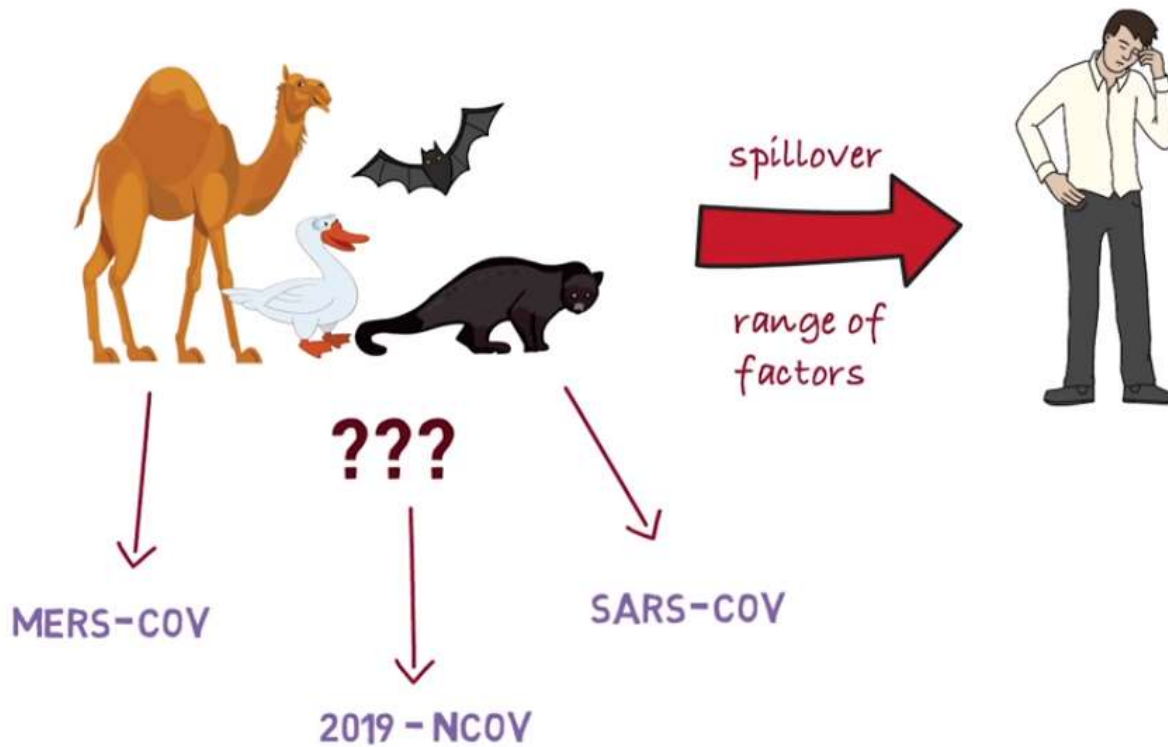
As on Feb 9, 2020



In the second emergency meeting of the International Health Regulations (2005) on January 30, 2020, **WHO-Director-General** declared that the outbreak of 2019-nCoV constitutes a **PHEIC** (Public Health Emergency of International Concern)

ORIGIN OF THE VIRUS

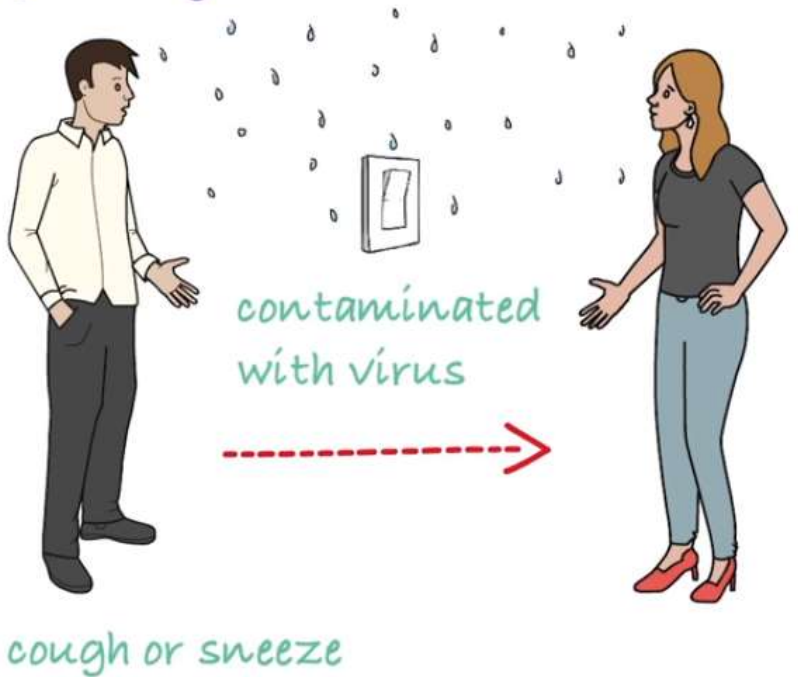
circulate in a range of animals



Human to Human transmission of nCoV has been demonstrated by close contact and exposure to respiratory droplets of an infected person, as in the context of family, workplace or in health-care centers. Also by being exposed to the surfaces contaminated with respiratory droplets of the infected person if not properly cleaned.

TRANSMISSION

exact dynamics yet to be determined
generally



GROUPS MOST AT RISK

close contact with animals
live animal market workers



caring for those with infection

family members or healthcare workers



Symptoms may appear in as few as 2 days or as long as 14 days, during which the virus is contagious

TRANSMISSION RATE (R_0) - 3-4 i.e. on average every case of the Novel Coronavirus would create 3 to 4 new cases

PREVENTION

Limited geographic spread

Standard hygiene measures



covering mouth and nose



avoiding close contact with those who are sick



masks and PPE health care setting



handwashing

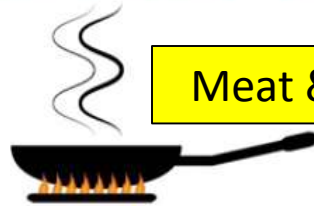
regular hand washing before and after touching animals



avoiding unnecessary contact with animals



stay home



Meat & Egg

thorough cooking



Avoid close contact with anyone with cold or flu-like symptoms



fever

cough

difficulty breathing

seek medical care early

share travel history

SYMPTOMS

What is known so far

mild  severe



fever



cough

shortness of breath

Pneumonia

Kidney failure

Death

Mortality rate -

2%

DIAGNOSIS



PCR
(Polymerase Chain Reaction)
Genetic fingerprint

TREATMENT

no specific medication
supportive care
No vaccine

Treatment and vaccines are in development

PART TWO

Surveillance & Response

Points of Entry Surveillance & Response in Khasab for Human Infection with Novel Corona Virus (2019-nCoV)

- Ground crossing border (Darah), Khasab Airport and Seaport - **International travelers can't enter directly** - they reach indirectly via UAE or Muscat
- Before reaching Khasab, they have to pass through **initial arrival screening procedures of UAE or Muscat (Airport or Seaport)**.
- Still a ***Second point of Entry surveillance*** in operation all PoE of Khasab
- **ROP** will request travelers to declare travel history to affected country (China) within past 14 days or enquire all persons with Chinese passports with exit stamp from China within past 2 weeks - to complete declaration form and submit to immigration.
- Information about **High risk travelers** will be communicated to Dept. of Communicable Disease Surveillance -DGHSM and they will be **transported** in ambulance for medical evaluation at **Bukha / Khasab Hospital** (whichever is nearest).
- If found Symptomatic - notify and make arrangements for screening tests in health institution.
- If found Asymptomatic - action following consultation with MoH

Self Declaration Form

Sultanate of Oman



Ministry of Health

Self-Declaration by International Traveller

Dear traveler - Kindly answer following three questions, fill-in your contact details and sign this declaration form ...

Question-1: In the past two (2) weeks have you visited or transited through from China?

YES NO

If answer to question is YES then dates of visit:

From To

Question-2: Did you come in contact with suspect or case of new Novel Coronavirus (2019 nCoV)?

YES NO

If answer is YES then:

Date of contact:

Question-3: Are you presently suffering from any of the symptoms listed below?

Symptoms: Fever with acute onset and/or Cough with acute onset and/ or Shortness of Breath, and /or Diarrhea and/or vomiting (in some cases)

YES NO

Signature of passenger

Arrival Date:

Contact Details of the Passenger:

Flight #: _____	Seat #: _____	Transit port: _____
1 st Name: _____	Nationality: _____	
2 nd Name: _____	Passport #: _____	
3 rd Name: _____	Age (years): _____	
Tribe/Surname: _____		Gender: M / F

Address in Oman

Home Tel: <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	Village: _____
Office Tel: <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	Wilayat: _____
Mobile: <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	Governorate: _____

Sponsor/Company: _____

Place of work: _____ / _____

Sponsor's Mobile #:

Note:



Ministry of Health

Directorate General for Disease Surveillance & Control

Surveillance & Action Protocol for Human Infection with Novel Corona Virus (2019-nCoV)

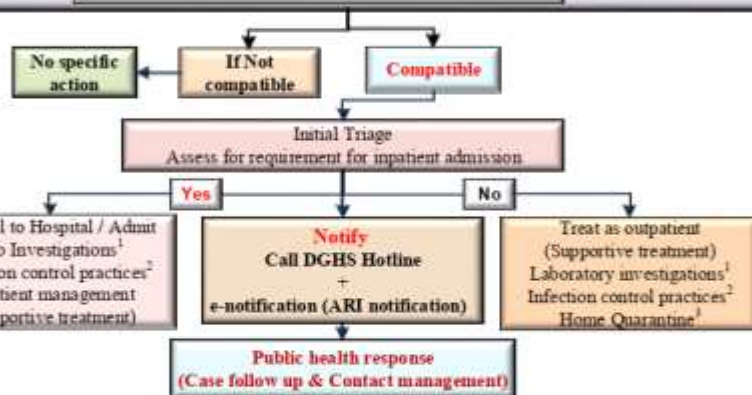
Applicable to all Primary Health Institutions and Private Institutions

Suspect case A person with acute respiratory infection (sudden onset of at least one of the following: fever, cough, shortness of breath)

AND In the **14 days** prior to onset of symptoms, met at least one of the following epidemiological criteria:

- 1) Travel to China. **OR**
- 2) A close contact with a **confirmed** case of 2019-nCoV infection. **OR**
- 3) Patient admitted with severe acute respiratory infection (SARI), **AND** with no other etiology that fully explains the clinical presentation.

For mandatory checking for Epidemiological Compatibility
Contact public health Hotline for Governorate XXXXX



¹Laboratory Investigations: Standard Process

- Collect respiratory samples (Nasopharyngeal(NS) and oral pharyngeal (OP) swab /Bronchoalveolar lavage / Tracheal aspiration / Sputum).
- Adhere to safety procedure during collection. Transport samples in triple packing.
- Swabs (NS & OP) to be placed in one Viral Transport Media tube and stored and transported in cold chain 2-8°C.
- Use Ahlifa Laboratory code : Novel respiratory virus PCR.
- Consider other differential diagnosis (Request for RVP, MERS-CoV, Atypical bacterial PCR & and bacterial culture)
- Contact CPHL Hotline (91313316) prior to shipment.

²Instructions for Suspect case on Home Quarantine

- Advice on respiratory etiquette and hand hygiene.
- Hand hygiene advice for family contacts
- Advice to keep 1 meter distance from others.
- Provide Surgical mask for home use.
- Avoid public places, gatherings & public transport.
- Home quarantine until 48 hours of being asymptomatic with regular check up by focal point.
- Contact numbers to be given to patients for call if needed.

²Infection prevention and control measures

- **Triage & early recognition:**
 - ✓ Health Care Workers (HCWs) should have a high level of clinical suspicion (follow case definition).
 - ✓ Use of respiratory hygiene measures including hand hygiene.
- **Apply standard precautions for all patients.**
- **Implement transmission based precautions:**
 - ✓ Droplet & contact precautions: For suspected or confirmed cases.
 - ✓ Airborne & contact precautions: when performing aerosol-generating procedures* (AGP) for suspected or confirmed cases.
- **Environmental and engineering controls:**
 - ✓ Ensure all areas are adequately ventilated.
 - ✓ Spatial separation of at least 1 meter distance should be maintained between each suspect patient and others.
 - ✓ Ensure appropriate environmental cleaning performed.

*AGP e.g. (Bronchoscopy, Sputum induction, Intubation and/or extubation, CPR, Open suctioning of airways) and HCWs should wear respiratory protection equivalent to a fitted N95 respirator (e.g. powered air purifying respirator).



Ministry of Health

Directorate General for Diseases Surveillance & Control

Human Infection with Novel Corona Virus (2019-nCoV)

Interim Guideline-2 for Hospitals

Novel Corona virus (2019-nCoV) case definition

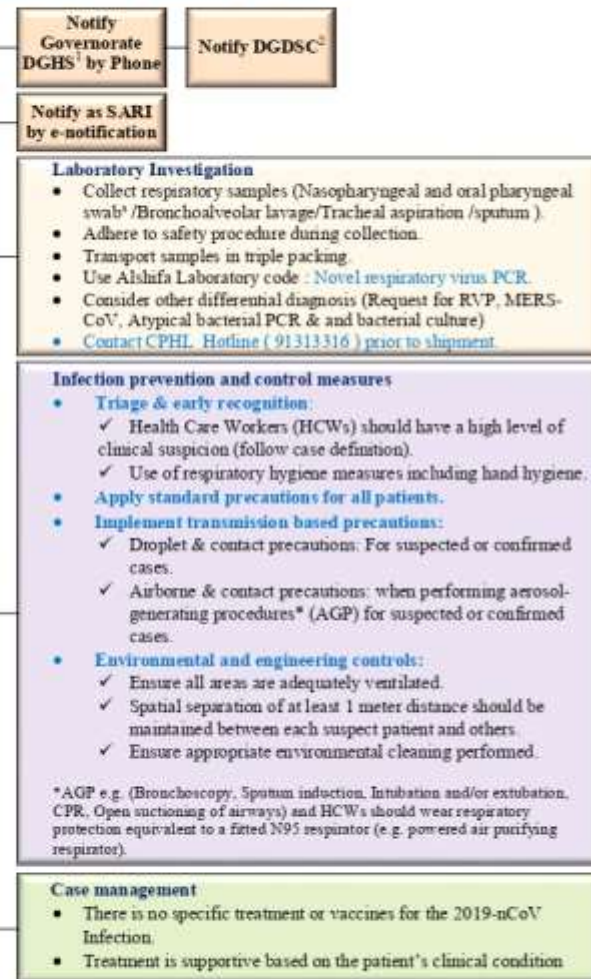
A suspected case is

A person with acute respiratory infection (sudden onset of at least one of the following: fever, cough, shortness of breath)

AND

In the **14 days** prior to onset of symptoms, met at least one of the following epidemiological criteria:

- 1) Travel to China. **OR**
- 2) A close contact with a **confirmed** case of 2019-nCoV infection. **OR**
- 3) Patient admitted with severe acute respiratory infection (SARI), **AND** with no other etiology that fully explains the clinical presentation.



Laboratory Investigation

- Collect respiratory samples (Nasopharyngeal and oral pharyngeal swab /Bronchoalveolar lavage/Tracheal aspiration /sputum).
- Adhere to safety procedure during collection.
- Transport samples in triple packing.
- Use Ahlifa Laboratory code : Novel respiratory virus PCR.
- Consider other differential diagnosis (Request for RVP, MERS-CoV, Atypical bacterial PCR & and bacterial culture)
- Contact CPHL Hotline (91313316) prior to shipment.

Infection prevention and control measures

- **Triage & early recognition:**
 - ✓ Health Care Workers (HCWs) should have a high level of clinical suspicion (follow case definition).
 - ✓ Use of respiratory hygiene measures including hand hygiene.
- **Apply standard precautions for all patients.**
- **Implement transmission based precautions:**
 - ✓ Droplet & contact precautions: For suspected or confirmed cases.
 - ✓ Airborne & contact precautions: when performing aerosol-generating procedures* (AGP) for suspected or confirmed cases.
- **Environmental and engineering controls:**
 - ✓ Ensure all areas are adequately ventilated.
 - ✓ Spatial separation of at least 1 meter distance should be maintained between each suspect patient and others
 - ✓ Ensure appropriate environmental cleaning performed.

*AGP e.g. (Bronchoscopy, Sputum induction, Intubation and/or extubation, CPR, Open suctioning of airways) and HCWs should wear respiratory protection equivalent to a fitted N95 respirator (e.g. powered air purifying respirator).

Case management

- There is no specific treatment or vaccines for the 2019-nCoV Infection.
- Treatment is supportive based on the patient's clinical condition

¹DGHS Directorate General Of Health Services

²DGDSC Directorate General for Diseases Surveillance & Control

³Nasopharyngeal and oral pharyngeal swabs should be placed in one VTM tube .

For more details visit WHO website: www.who.int/westernpacific/emergencies/novel-coronavirus

Please note Governorate Hotline list attached.



Ministry of Health, Sultanate of Oman
Directorate General for Disease Surveillance & Control

Surveillance & Action Protocol for Human Infection with Novel Corona Virus (COVID-19)
Applicable to all Primary Health Institutions under MoH, Non MoH-Governmental & Private Institutions

Suspect case definition

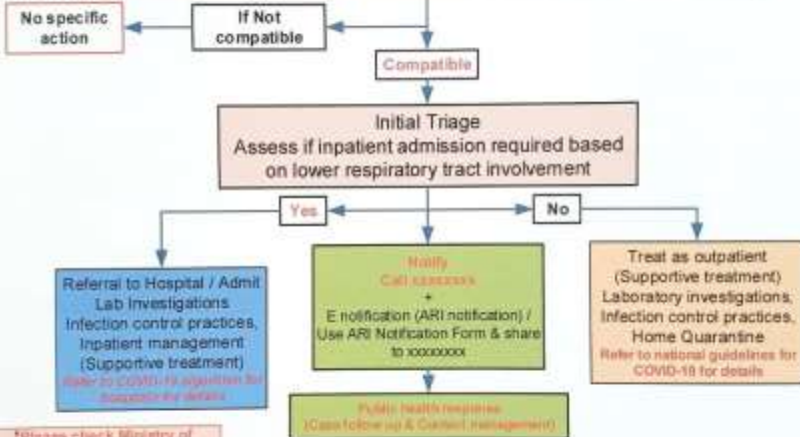
A person with acute respiratory infection (Sudden onset of at least one of the symptoms such as fever / cough /breathing difficulty)

AND

Meeting one or other of the following epidemiological criteria within 14 days prior to onset of symptoms

1. Returning from countries **with local transmission of COVID-19*** OR
2. Having High risk exposures* in countries which has reported COVID-19 cases but with no local transmission.

Epidemiological Compatibility check is mandatory for lab testing.
Contact public health Hotline for Governorate xxxxxxxx



*Please check Ministry of Health Website for updated list of countries with local transmission (Use the QRs provided) OR Call Governorate Hotline



Laboratory investigations: Standard Process
Collect respiratory samples (Nasopharyngeal(NS) and oral pharyngeal (OP) swab /Bronchoalveolar lavage / Tracheal aspiration / Sputum)
• Adhere to safety procedure during collection.
• Transport samples in triple packing.
• Swabs (NS & OP) to be placed in one Viral Transport Media tube and stored and transported in cold chain 2-8°C.
• Use Alshifa Laboratory code : SARS-CoV-2 RNA PCR
• Consider other differential diagnosis (Request for RVP, MERS-CoV, Atypical bacterial PCR & and bacterial culture)
• Contact CPHL Hotline (91313316) prior to shipment.

*Risk assessment based on exposure history within 14 days prior to onset of symptoms.

- HIGH RISK EXPOSURE**
1. Primary close contacts of confirmed case.
 2. Visited a hospital in affected country.
- A close contact is one who have the following:**
- Had a face to face contact with the patient including physical examination (unprotected).
 - Touched or cleaned the linens, clothes or dishes of the patient.
 - Exposure within 3 meters of a confirmed patient.
 - Passenger of the aeroplane with confirmed COVID-19 case (Those seated in same row, 2 rows in front and behind).
 - Shared taxi or car with confirmed or suspected case.
- LOW RISK EXPOSURE**
1. Primary casual contacts of confirmed case.
 2. Shared the same space and not having direct exposure to the high risk or suspected case.
 3. Travel in the same environment (Bus/Flight) but not having direct exposure.



Ministry of Health
Directorate General for Diseases Surveillance & Control

Human Infection with Novel Corona Virus (COVID-19)
Interim Guideline-3 for Hospitals

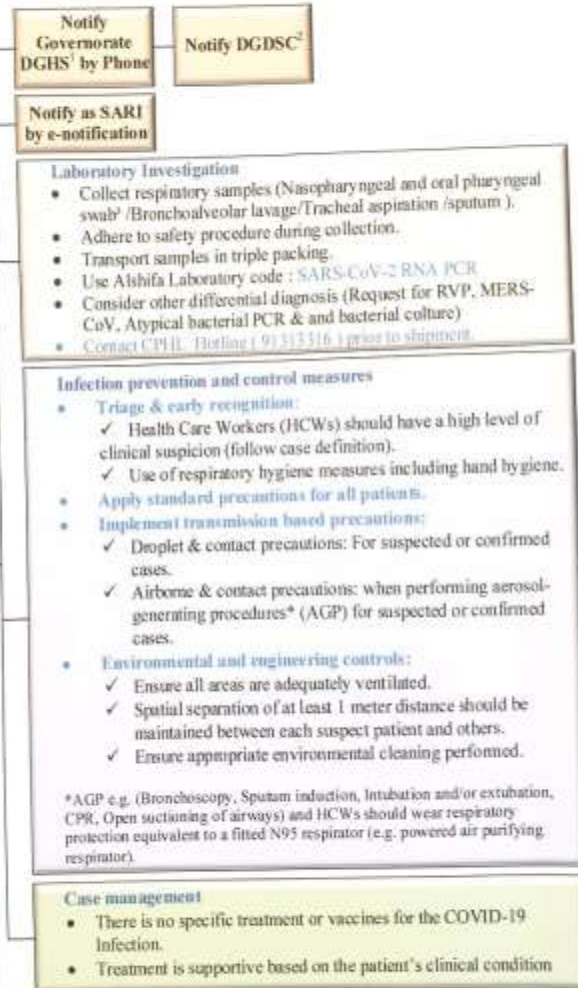
Novel Corona virus (COVID-19) case definition

A suspected case is
A) A person with acute respiratory infection (sudden onset of at least one of the following: fever, cough, shortness of breath)

AND

In the **14 days** prior to onset of symptoms, met at least one of the following epidemiological criteria:
1) Travel to affected countries (Check Ministry of Health Website for updated list of countries¹ or Call Governorate Hotline

OR
2) A close contact with a **confirmed** case of COVID-19 infection.
B) Patient admitted with severe acute respiratory infection (SARI), **AND** with no other etiology that fully explains the clinical presentation.



Laboratory Investigation

- Collect respiratory samples (Nasopharyngeal and oral pharyngeal swab /Bronchoalveolar lavage/Tracheal aspiration /sputum).
- Adhere to safety procedure during collection.
- Transport samples in triple packing.
- Use Alshifa Laboratory code : SARS-CoV-2 RNA PCR
- Consider other differential diagnosis (Request for RVP, MERS-CoV, Atypical bacterial PCR & and bacterial culture)
- Contact CPHL Hotline (91313316) prior to shipment.

Infection prevention and control measures

- Triage & early recognition:
 - ✓ Health Care Workers (HCWs) should have a high level of clinical suspicion (follow case definition).
 - ✓ Use of respiratory hygiene measures including hand hygiene.
- Apply standard precautions for all patients.
- Implement transmission based precautions:
 - ✓ Droplet & contact precautions: For suspected or confirmed cases.
 - ✓ Airborne & contact precautions: when performing aerosol-generating procedures* (AGP) for suspected or confirmed cases.
- Environmental and engineering controls:
 - ✓ Ensure all areas are adequately ventilated.
 - ✓ Spatial separation of at least 1 meter distance should be maintained between each suspect patient and others.
 - ✓ Ensure appropriate environmental cleaning performed.

*AGP e.g. (Bronchoscopy, Sputum induction, Intubation and/or extubation, CPR, Open suctioning of airways) and HCWs should wear respiratory protection equivalent to a fitted N95 respirator (e.g. powered air purifying respirator).

Case management

- There is no specific treatment or vaccines for the COVID-19 Infection.
- Treatment is supportive based on the patient's clinical condition

¹DGHS Directorate General Of Health Services.
²DGDSC Directorate General for Diseases Surveillance & Control.
³Nasopharyngeal and oral pharyngeal swabs should be placed in one VTM tube.
⁴For updated list of affected countries visit MOH website: www.moh.gov.om/en/corona (Use the QRs provided)
Please note Governorate Hotline list attached.



Suspect: A person with acute respiratory infection (sudden onset of **at least one** of the following: **fever, cough, shortness of breath**)



In the 14 days prior to onset of symptoms, at least one of the following epidemiological criteria:

For checking compatibility, Call Governorate Hotline: 91345394 /99820729

- Returning from countries with LOCAL TRANSMISSION OF COVID-19 **OR**
- Having HIGH RISK EXPOSURES in countries which has reported COVID-19 cases but no local transmission.

NOT Compatible

NO Specific Action

Compatible

Suspect case of nCoV

NOTIFY*
Fax: 26730147

Triage (Assess for requirement of admission)

Yes

No

- **Referral to Hospital / Admit**
- Lab Investigations
- Infection control practices
- **Inpatient management** (Supportive treatment)

Case follow up & Contact management

- **Treat as outpatient** (Supportive treatment)
- Lab Investigations
- Infection control practices
- **Home Quarantine**

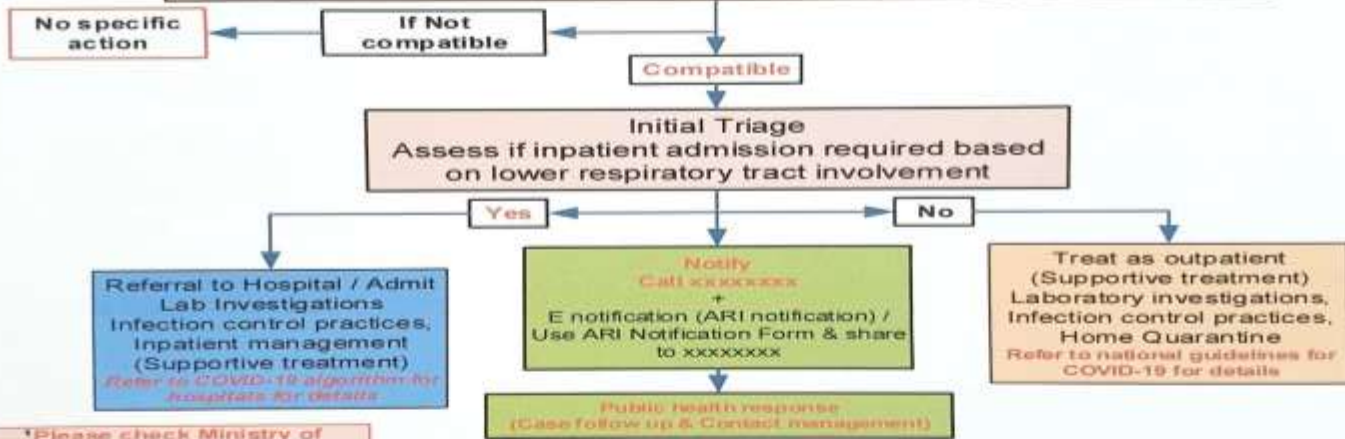


Ministry of Health, Sultanate of Oman
Directorate General for Disease Surveillance & Control

Surveillance & Action Protocol for Human Infection with Novel Corona Virus (COVID-19)
Applicable to all Primary Health Institutions under MoH, Non MoH-Governmental & Private institutions

Suspect case definition
A person with acute respiratory infection (Sudden onset of at least one of the symptoms such as fever / cough /breathing difficulty)
AND
Meeting one or other of the following epidemiological criteria within 14 days prior to onset of symptoms
1. Returning from countries with local transmission of COVID-19* OR
2. Having High risk exposures² in countries which has reported COVID-19 cases but with no local transmission.

Epidemiological Compatibility check is mandatory for lab testing.
Contact public health Hotline for Governorate xxxxxxxx



*Please check Ministry of Health Website for updated list of countries with local transmission (Use the QRS provided) OR Call Governorate Hotline



Laboratory Investigations: Standard Process
Collect respiratory samples (Nasopharyngeal(NS) and oral pharyngeal (OP) swab /Bronchoalveolar lavage / Tracheal aspiration / Sputum).
• Adhere to safety procedure during collection.
• Transport samples in triple packing.
• Swabs (NS & OP) to be placed in one Viral Transport Media tube and stored and transported in cold chain 2-8°C.
• Use Aishifa Laboratory code : SARS-CoV-2 RNA PCR
• Consider other differential diagnosis (Request for RVP, MERS-CoV, Atypical bacterial PCR & and bacterial culture)
• Contact CPHL Hotline (91313316) prior to shipment.

***Risk assessment based on exposure history within 14 days prior to onset of symptoms.**

HIGH RISK EXPOSURE
1. Primary close contacts of confirmed case.
2. Visited a hospital in affected country.

A close contact is one who have the following:

- Had a face to face contact with the patient including physical examination (unprotected).
- Touched or cleaned the linens, clothes or dishes of the patient.
- Exposure within 3 meters of a confirmed patient.
- Passenger of the aeroplane with confirmed COVID-19 case (Those seated in same row, 2 rows in front and behind).
- Shared taxi or car with confirmed or suspected case.

LOW RISK EXPOSURE
1. Primary casual contacts of confirmed case.
2. Shared the same space and not having direct exposure to the high risk or suspected case
3. Travel in the same environment (Bus/Flight) but not having direct exposure.

²Risk assessment based on exposure history within 14 days prior to onset of symptoms.

HIGH RISK EXPOSURE

1. Primary close contacts of confirmed case.
2. Visited a hospital in affected country.

A close contact is one who have the following:

- *Had a face to face contact with the patient including physical examination (unprotected).*
- *Touched or cleaned the linens, clothes or dishes of the patient.*
- *Exposure within 3 meters of a confirmed patient.*
- *Passenger of the aeroplane with confirmed COVID-19 case (Those seated in same row, 2 rows in front and behind).*
- *Shared taxi or car with confirmed or suspected case.*

LOW RISK EXPOSURE

1. Primary casual contacts of confirmed case.
2. Shared the same space and not having direct exposure to the high risk or suspected case
3. Travel in the same environment (Bus/Flight) but not having direct exposure.

Laboratory Investigation - collection and transport of specimen

- **Collect respiratory samples**
 - **Nasopharyngeal and oral pharyngeal swabs** - should be placed in one VTM tube
 - **Sputum**
- All specimens collected - should be regarded as potentially infectious.
- Ensure that HCWs who collect respiratory specimen specimens should use appropriate PPE (eye protection, **a fit-tested N95 respirator**, long-sleeved gown, gloves).
- **Deliver all specimens by hand** whenever possible.
- Place specimens for transport in **triple packing** with the patient's name label on the specimen container (primary container), and a clearly written laboratory request form.
- Use Al Shifa Laboratory code : **SARS-CoV-2 RNA PCR**
- Consider other differential diagnosis (Request for RVP, MERS-CoV, Atypical bacterial PCR & and bacterial culture)
- Contact CPHL Hotline (**91313316**) **prior to shipment**



Ministry of Health
 Directorate General for Diseases Surveillance & Control
Human Infection with Novel Corona Virus (COVID-19)
Interim Guideline-3 for Hospitals

Novel Corona virus (COVID-19) case definition

A suspected case is

A) A person with acute respiratory infection (sudden onset of at least one of the following: fever, cough, shortness of breath)

AND

In the **14 days** prior to onset of symptoms, met at least one of the following

epidemiological criteria:

1) Travel to affected countries (Check Ministry of Health Website for updated list of countries⁴ or Call Governorate Hotline

OR

2) A close contact with **a confirmed** case of COVID-19 infection.

B) Patient admitted with severe acute respiratory infection (SARI), **AND** with no other etiology that fully explains the clinical presentation.

Notify Governorate DGHS¹ by Phone

Notify DGDSC²

Notify as SARI by e-notification

Laboratory Investigation

- Collect respiratory samples (Nasopharyngeal and oral pharyngeal swab³ /Bronchoalveolar lavage/Tracheal aspiration /sputum).
- Adhere to safety procedure during collection.
- Transport samples in triple packing.
- Use Alshifa Laboratory code : SARS-CoV-2 RNA PCR
- Consider other differential diagnosis (Request for RVP, MERS-CoV, Atypical bacterial PCR & and bacterial culture)
- Contact CPHL Hotline (91313316) prior to shipment.

Infection prevention and control measures

- **Triage & early recognition:**
 - ✓ Health Care Workers (HCWs) should have a high level of clinical suspicion (follow case definition).
 - ✓ Use of respiratory hygiene measures including hand hygiene.
- **Apply standard precautions for all patients.**
- **Implement transmission based precautions:**
 - ✓ Droplet & contact precautions: For suspected or confirmed cases.
 - ✓ Airborne & contact precautions: when performing aerosol-generating procedures* (AGP) for suspected or confirmed cases.
- **Environmental and engineering controls:**
 - ✓ Ensure all areas are adequately ventilated.
 - ✓ Spatial separation of at least 1 meter distance should be maintained between each suspect patient and others.
 - ✓ Ensure appropriate environmental cleaning performed.

*AGP e.g. (Bronchoscopy, Sputum induction, Intubation and/or extubation, CPR, Open suctioning of airways) and HCWs should wear respiratory protection equivalent to a fitted N95 respirator (e.g. powered air purifying respirator).

Case management

- There is no specific treatment or vaccines for the COVID-19 Infection.
- Treatment is supportive based on the patient's clinical condition

¹DGHS Directorate General Of Health Services.

²DGDSC Directorate General for Diseases Surveillance & Control.

³Nasopharyngeal and oral pharyngeal swabs should be placed in one VTM tube.

⁴For updated list of affected countries visit MOH website:

www.moh.gov.om/en/corona (Use the QRS provided)

Please note Governorate Hotline list attached.



Novel Corona virus (COVID-19) case definition

A suspected case is

A) A person with acute respiratory infection (sudden onset of at least one of the following: fever, cough, shortness of breath)

AND

In the **14 days** prior to onset of symptoms, met at least one of the following

epidemiological criteria:

1) Travel to affected countries (Check Ministry of Health Website for updated list of countries^a or Call Governorate Hotline

OR

2) A close contact with **a confirmed** case of COVID-19 infection.

B) Patient admitted with severe acute respiratory infection (SARI), **AND** with no other etiology that fully explains the clinical presentation.

Ministry of Health
Directorate General for Diseases Surveillance & Control
Infection with Novel Corona Virus (COVID-19)
Interim Guideline-3 for Hospitals

Notify
Governorate
DGHS¹ by Phone

Notify DGDSC²

Notify as SARI
by e-notification

Laboratory Investigation

- Collect respiratory samples (Nasopharyngeal and oral pharyngeal swab³ /Bronchoalveolar lavage/Tracheal aspiration /sputum).
- Adhere to safety procedure during collection.
- Transport samples in triple packing.
- Use Alshifa Laboratory code : SARS-CoV-2 RNA PCR
- Consider other differential diagnosis (Request for RVP, MERS-CoV, Atypical bacterial PCR & and bacterial culture)
- Contact CPHL Hotline (91313316) prior to shipment.

Infection prevention and control measures

- **Triage & early recognition:**
 - ✓ Health Care Workers (HCWs) should have a high level of clinical suspicion (follow case definition).
 - ✓ Use of respiratory hygiene measures including hand hygiene.
- **Apply standard precautions for all patients.**
- **Implement transmission based precautions:**
 - ✓ Droplet & contact precautions: For suspected or confirmed cases.
 - ✓ Airborne & contact precautions: when performing aerosol-generating procedures* (AGP) for suspected or confirmed cases.
- **Environmental and engineering controls:**
 - ✓ Ensure all areas are adequately ventilated.
 - ✓ Spatial separation of at least 1 meter distance should be maintained between each suspect patient and others.
 - ✓ Ensure appropriate environmental cleaning performed.

*AGP e.g. (Bronchoscopy, Sputum induction, Intubation and/or extubation, CPR, Open suctioning of airways) and HCWs should wear respiratory protection equivalent to a fitted N95 respirator (e.g. powered air purifying respirator).

Case management

- There is no specific treatment or vaccines for the COVID-19 Infection.
- Treatment is supportive based on the patient's clinical condition

¹DGHS Directorate General Of Health Services.

²DGDSC Directorate General for Diseases Surveillance & Control.

³Nasopharyngeal and oral pharyngeal swabs should be placed in one VTM tube.

⁴For updated list of affected countries visit MOH website:

www.moh.gov.om/en/corona (Use the QRS provided)

Please note Governorate Hotline list attached.



www.moh.gov.om/en/corona

or

www.moh.gov.om/ar/corona

Ministry of Health
Sultanate of Oman

Directorate General for Disease Surveillance & Control

Incident Command Chain

Hotline Numbers

National level	Hotline	Fax
National Hotline	92199389	22357541
Surveillance (DS)		22357541
Communicable Disease (DCD)		22357539
Infection Prevention & Control (CDIPC)	91313315	22357542
Central Public Health laboratory (CPHL)	91313316	24793899
Environmental & Occupational Health (EOH)		24563121

Governorates	Hotline	Fax
Muscat	90924212	24707264
South Al Batinah	72145603	26877470
North Al Batinah	98818166	26845168
Al Buraimi	71555520	25657147
Al Dhahira	91789500	25685912
Al Dhakhliyah	90922261	25228493
North Al Sharqiyah	99101292	25576891
South Al Sharqiyah	71742120 25543996	25540188
Al Wusta	99342885	23436402
Dhofar	93531812	23230559
Musandam	99820729	26730147

Suspected 2019- nCoV Notification Form

1. Reporting hospital:		2. Date of reporting:		Hosp. Sticker																		
3. Patient name:																						
4. Nationality:		5. GSM:																				
6.1 Governorate:	6.2 Wilayat:	6.3 Village:																				
7.1 Symptoms: <input type="checkbox"/> Fever <input type="checkbox"/> Runny Nose <input type="checkbox"/> Sneezing <input type="checkbox"/> Cough <input type="checkbox"/> Sore Throat <input type="checkbox"/> Shortness of Breath <input type="checkbox"/> Other symptoms: _____																						
7.2 Date of onset: ___/___/___		7.3 Date of Admission: ___/___/___																				
8. Did patient travel outside Oman in the 14 days prior to illness onset? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown If yes, provide details:			9. Did patient have contact with <u>someone else</u> who traveled outside Oman in the 14 days prior to illness onset? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown If yes,																			
<table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 30%;">Depart Date</th> <th style="width: 30%;">Return Date</th> <th style="width: 40%;">Country</th> </tr> </thead> <tbody> <tr> <td>1. ___/___/___</td> <td>___/___/___</td> <td>_____</td> </tr> <tr> <td>2. ___/___/___</td> <td>___/___/___</td> <td>_____</td> </tr> </tbody> </table>			Depart Date	Return Date	Country	1. ___/___/___	___/___/___	_____	2. ___/___/___	___/___/___	_____	a) What is relation? _____ b) Traced history of contact: <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 30%;">Depart Date</th> <th style="width: 30%;">Return Date</th> <th style="width: 40%;">Country</th> </tr> </thead> <tbody> <tr> <td>1. ___/___/___</td> <td>___/___/___</td> <td>_____</td> </tr> <tr> <td>2. ___/___/___</td> <td>___/___/___</td> <td>_____</td> </tr> </tbody> </table>		Depart Date	Return Date	Country	1. ___/___/___	___/___/___	_____	2. ___/___/___	___/___/___	_____
Depart Date	Return Date	Country																				
1. ___/___/___	___/___/___	_____																				
2. ___/___/___	___/___/___	_____																				
Depart Date	Return Date	Country																				
1. ___/___/___	___/___/___	_____																				
2. ___/___/___	___/___/___	_____																				
10. Did patient have contact with a person with ARI in the 14 days prior to illness onset? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown If yes, describe (e.g., Case is sibling of a confirmed case)			11. In the 14 days before onset did the patient have close contact with any of the following: <input type="checkbox"/> Cows <input type="checkbox"/> Bats <input type="checkbox"/> Goats <input type="checkbox"/> Camels <input type="checkbox"/> Sheep <input type="checkbox"/> Other animals, specify _____ Other risk factor(circle the relevant): DM/ HTN/ Obesity/ pregnancy/ "immuno compromised"																			
12. Does patient work as a health care worker? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown If Yes, health facility: _____			13. Diagnosis of pneumonia? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown If Yes: <input type="checkbox"/> Clinical <input type="checkbox"/> Radiographic <input type="checkbox"/> Other If other: _____																			
14. Was the patient hospitalized in last month? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown If yes: a) Hospitalization Date: ___/___/___ b) Discharge Date: ___/___/___ c) Health facility: _____ d) Reason for admission: _____			15. Admitted to ICU <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown ICU Start Date: ___/___/___ ICU Discharge Date: ___/___/___																			
16. Mechanical Ventilation <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown If yes, Start Date: ___/___/___ Duration (days): _____ days			17. Acute Respiratory Distress Syndrome <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown																			
			18. Renal failure <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown																			
			19. Outcome <input type="checkbox"/> Discharge, date: ___/___/___ <input type="checkbox"/> Died, date: ___/___/___																			
20. Respiratory Samples:																						
1. BAL or Endotracheal aspirate		Date of sample collection: ___/___/___	Date sample sent: ___/___/___																			
2. Nasopharyngeal (NP) aspirates		Date of sample collection: ___/___/___	Date sample sent: ___/___/___																			
3. Set of NP/ OP swabs in VTM		Date of sample collection: ___/___/___	Date sample sent: ___/___/___																			
4. Sputum in sterile container		Date of sample collection: ___/___/___	Date sample sent: ___/___/___																			
Additional Sample																						
Plasma in EDTA (5cc)		Date of sample collection: ___/___/___	Date sample sent: ___/___/___																			

For paper notification

Doctor Signature: _____

Home Quarantine/Isolation

Home Isolation

Home Quarantine

Definition: separates and restricts the movement of **symptomatic suspect**

separates and restricts the movement of **asymptomatic contact**.

Eligibility: symptomatic suspect **not requiring** hospital **admission**

- **close contact** of a **suspect/confirmed** nCoV case
- **person arriving from China**

Responsibility: **Focal person of PHC and Public health staff**

Implementation of home quarantine/isolation

- Determine the **appropriate quarantine site** (Home or alternative site)
 - **well-ventilated single room as far as possible**
 - home should have a separate functioning bathroom.
 - Basic amenities should be available.
- Contact the MOIC -PHC in the respective catchment area of Quarantined/Isolated person
- Obtain the information of **contacts** and **fill the quarantine follow up form**.
- **Ensure daily follow up for symptoms** of fever and cough and should be **documented** in the follow up form.
- **Send daily feedback** to Disease Surveillance and Control Department (DSCD).
- **Provide the Quarantined/Isolated person with contact numbers of focal point at PHC.**
- **Provide** the Quarantined/Isolated person with **instruction card** for Home quarantine /Home Isolation.

Home Quarantine/Isolation - Process

- Only **assigned family members** should attend and take care of the quarantined /isolated person
- Advice to **keep 1 meter distance from others**. If another family member needs to stay in the same room, maintain a distance of at least 1m (e.g. sleep in a separate bed).
- Advice on **respiratory etiquette and hand hygiene** for quarantined /isolated person and for family contacts
- Provide **Surgical mask** for home use.
- Person should **avoid public places, gatherings & public transport** and also **restrict his/her movement within the house**.
- **Visitors are not allowed**
- **Caregiver** should **wear surgical mask** when attending the quarantined/isolated person, and should dispose it after use and wash hands.
- **Avoid sharing household items** e.g., dishes, drinking glasses, cups, eating utensils, towels, bedding, or other items with other people at home.
- **Clean and disinfect frequently touched surfaces** e.g. bed frames, tables etc.) **/toilet surfaces (daily** with regular household bleach solution)
- Clean the **clothes and other linen** used by the quarantined/isolated person separately using common household detergent and dry. **Avoid shaking of the soiled linen**.
- **Use disposable gloves** when cleaning the surfaces or handling soiled linen, wash hands after removing gloves.
- Those who need extension of sick leave may kindly contact the health institution over phone for necessary arrangements without visiting the institution.

Respiratory Hygiene and Cough Etiquette

- **Cover** your nose and mouth with a tissue during coughing/sneezing
- **Dispose** the used tissue in the waste bin
- **Wash your hands** with soap and water / hand sanitizer after having contact with respiratory secretions and contaminated objects or materials
- Inside the health care facility, patient should be asked to put on **face mask** to protect others





Ministry of Health

Directorate General for Disease Surveillance & Control

C. Person placed on Quarantine/ Isolation - Follow up sheet

Governorate			
Health Institution following			
Quarantine site			
Reason for quarantine			
Patient Name		Age	years
Telephone numbers		Number of contacts	
If symptomatic Date of onset of symptoms		If asymptomatic Date of starting quarantine in facility	
Date of Testing		Lab Result	

	Name of contacts	Symptoms	Remarks
Day 1			
Day 2			
Day 3			
Day 4			
Day 5			
Day 6			
Day 7			
Day 8			
Day 9			
Day 10			
Day 11			
Day 12			
Day 13			
Day 14			

Governorate	
Health Institution following	
Quarantine site	
Reason for quarantine	
Patient Name	
Telephone numbers	
If symptomatic Date of onset of symptoms	
Date of Testing	

Day 12						
Day 13						
Day 14						

Please send feedback to on a daily basis

Period of Home Isolation / Quarantine

Home Isolation for Suspect case

(symptomatic person but does not require admission)

Isolation to be continued till

- PCR for 2019- nCoV, negative **AND**
- 48 hours after completely asymptomatic (Confirmed cases to be reevaluated)

Home Quarantine for Asymptomatic contacts

- Period of quarantine will be up to 14 days from the date of exposure
- In between if he develops any symptoms, he should report to the nearest health centre immediately while using a mask on the way.



Person placed in Quarantine/ Isolation card

Quarantined/isolated person should stay in a well-ventilated single-room as far as possible. If another family member needs to stay in the same room, maintain a distance of at least 1m (e.g. sleep in a separate bed).

- Only assigned family members should attend and take care of the quarantined/isolated person.
- Visitors are not allowed.
- Quarantined/isolated person should restrict his/her movement within the house.
- Cover mouth and nose with tissue or sleeve while coughing or sneezing, then throw used tissues immediately.
- Wash hands as often thoroughly with soap and water or alcohol-based hand rub.
- Caregiver should wear surgical mask when attending the quarantined/isolated person, and should dispose it after use and wash hands.

Avoid sharing household items e.g.; dishes, drinking glasses, cups, eating utensils, towels, bedding, or other items with other people at home.

- Clean and disinfect frequently touched surfaces in the quarantined/isolated person room (e.g. Bed frames, tables etc.) daily with regular household bleach solution (1 part of bleach to 99 part of water).
- Clean and disinfect toilet surfaces daily with regular household bleach solution (1 part of bleach to 99 part of water).
- Clean the clothes and other linen used by the quarantined/isolated person separately using common household detergent and dry.
- Avoid shaking of the soiled linen or direct contact with skin to them.
- Use disposable gloves when cleaning the surfaces or handling soiled linen, Wash hands after removing gloves.
- Those who need extension of sick leave may kindly contact the health institution over phone for necessary arrangements without visiting the institution.
- Asymptomatic quarantined/isolated person if develops any symptoms should report to the nearest health centre immediately while using a mask on the way if available.

Contact Tracing & Management

Definition of contact: who had **unprotected exposure** to suspected or confirmed cases of 2019-nCoV

- **Asymptomatic contact** - currently not presenting symptoms
- **Symptomatic contact** - any individual who has close contact with a suspected or confirmed case of nCoV **in the last 14 days**, develops symptoms (fever, cough, difficulty in breathing)

Who are probable contacts:

- **Health care facility** : HCWs, patients, attendants, visitors
- **Outside health care facility** : family members, co-passengers

Types of contacts:

- **Close contacts (High risk exposure)**
 - HCW or other person providing direct care
 - Laboratory workers handling specimens
 - A person living in the same household as a 2019-nCoV case
 - A person having had face to face contact or was in the closed environment with nCoV case
- **Casual contacts (Low risk exposure)** - friend, relative, office colleague

Steps of contact management

- Contact identification and listing
- Classification of contacts into close contacts or casual contacts
- Contact tracing and assessment (i.e. communicate with the contact persons and assess risk)
- Contact management and follow -up

²Risk assessment based on exposure history within 14 days prior to onset of symptoms.

HIGH RISK EXPOSURE

1. Primary close contacts of confirmed case.
2. Visited a hospital in affected country.

A close contact is one who have the following:

- *Had a face to face contact with the patient including physical examination (unprotected).*
- *Touched or cleaned the linens, clothes or dishes of the patient.*
- *Exposure within 3 meters of a confirmed patient.*
- *Passenger of the aeroplane with confirmed COVID-19 case (Those seated in same row, 2 rows in front and behind).*
- *Shared taxi or car with confirmed or suspected case.*

LOW RISK EXPOSURE

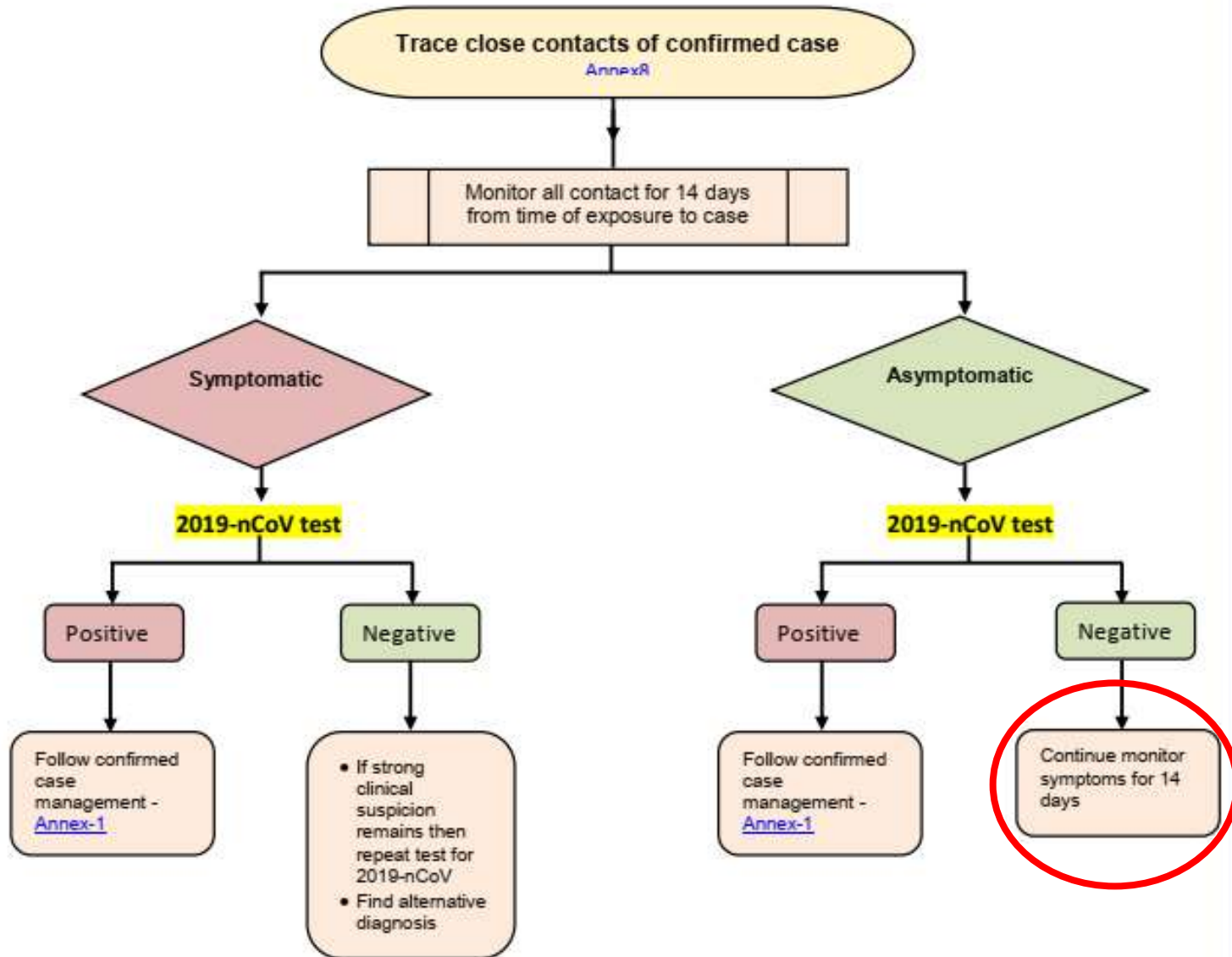
1. Primary casual contacts of confirmed case.
2. Shared the same space and not having direct exposure to the high risk or suspected case
3. Travel in the same environment (Bus/Flight) but not having direct exposure.

Contact Tracing & Management in Health Care Facility

- General consideration:

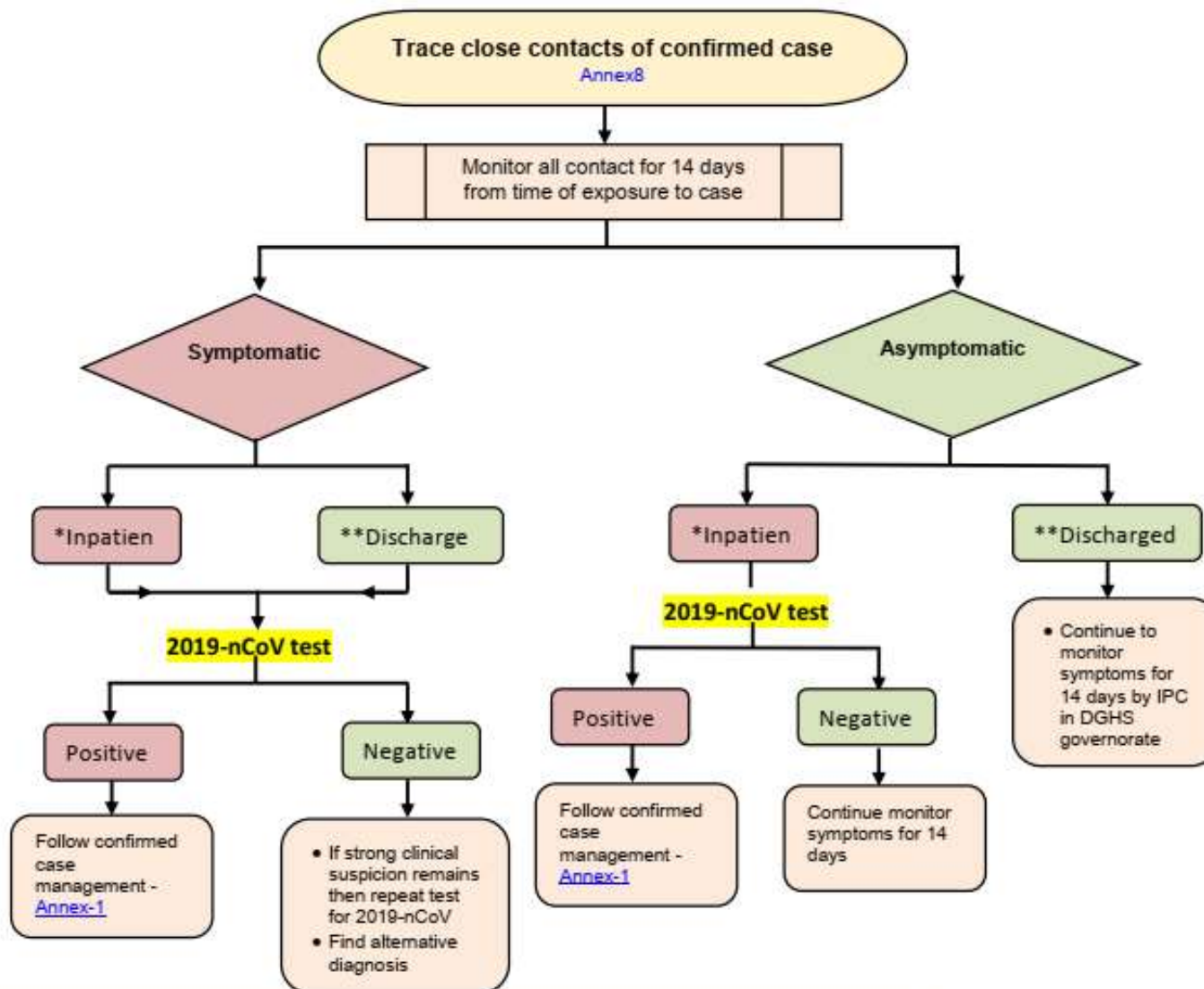
- **Infection control team of the facility should trace all contacts** within the HCF
- **Follow them for symptoms** (fever, cough and difficulty in breathing) **for a total of 14 days from last exposure with the case.**
- **List of contacts (HCWs & patients), should be shared with the CDIPC (MoH)**
- **Consider all HCW contacts of 2019-nCoV case as high- risk**
- **All HCWs who are close contacts - symptomatic and asymptomatic** should not be allowed to take care of patients and he/she **should be on sick leave for a period of 14 days or until they are cleared** by infection control team.
- **Testing should not be done before 24 hours of exposure**
- **Healthcare workers who test positive** for 2019-nCoV can be **CLEARED** by IPC team **when;**
 - have a second PCR for 2019- nCoV, negative
 - **And** have been asymptomatic for at least 48 hrs

Management of HCW contacts for a confirmed 2019-nCoV



The infection control team of the facility should trace all contacts within the HCF and assess them for respiratory symptoms for a total of 14 days.

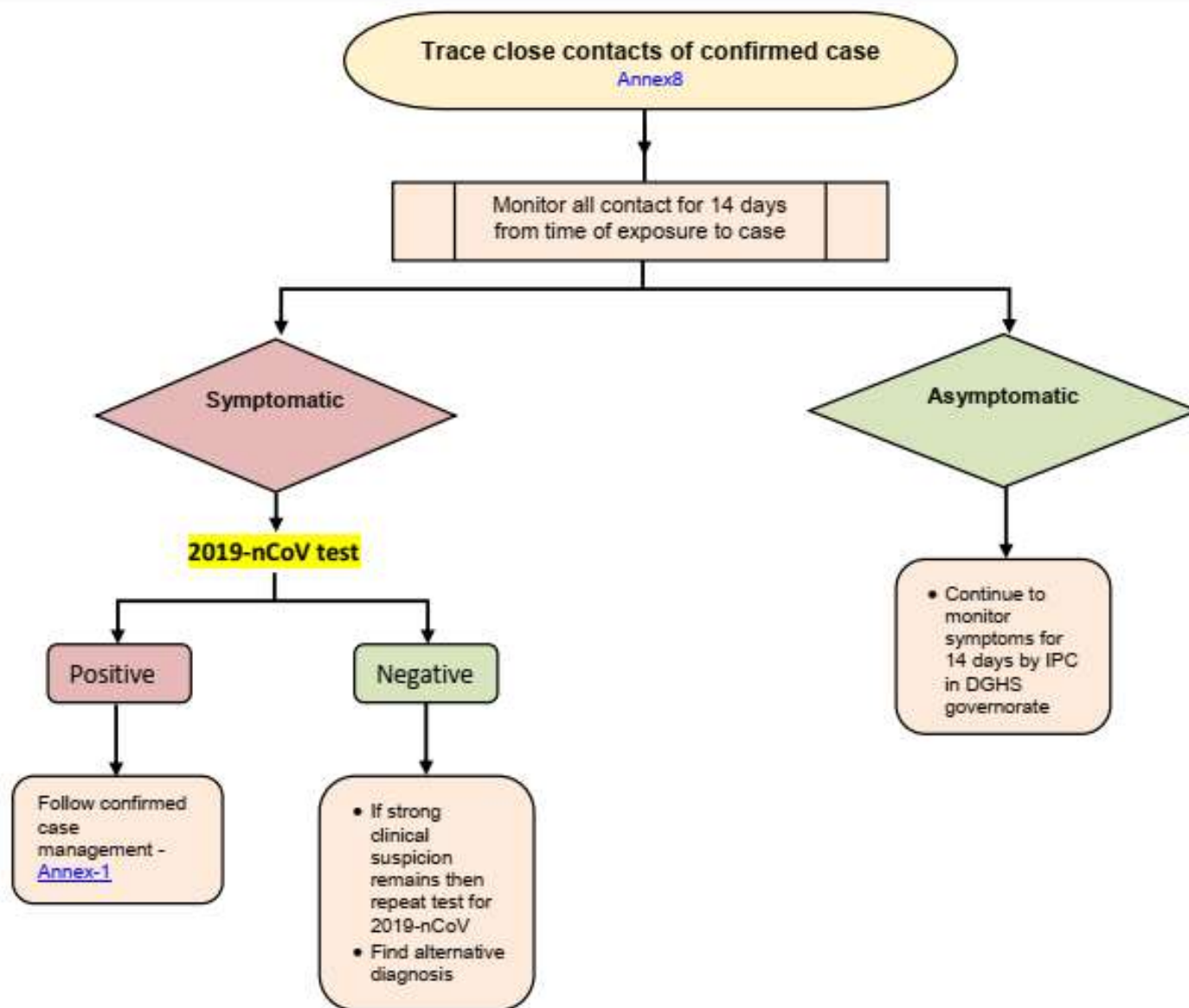
Management of patient contacts for a confirmed 2019-nCoV



* If contacts are inpatient, the infection control team of the hospital should trace all contacts within the HCF and assess them for 2019-nCoV symptoms for a total of 14 days.

** If contacts are discharged, the infection control team in the DGHS governorate should trace all contacts within the community and assess them for 2019-nCoV symptoms for a total of 14 days.

Management of patient attendants and visitor contacts for a confirmed 2019-nCoV



The infection control team of the hospital should liaise with IPC in DGHS governorate to trace all contacts of confirmed case and assess them for 2019-nCoV symptoms for a total of 14 days.

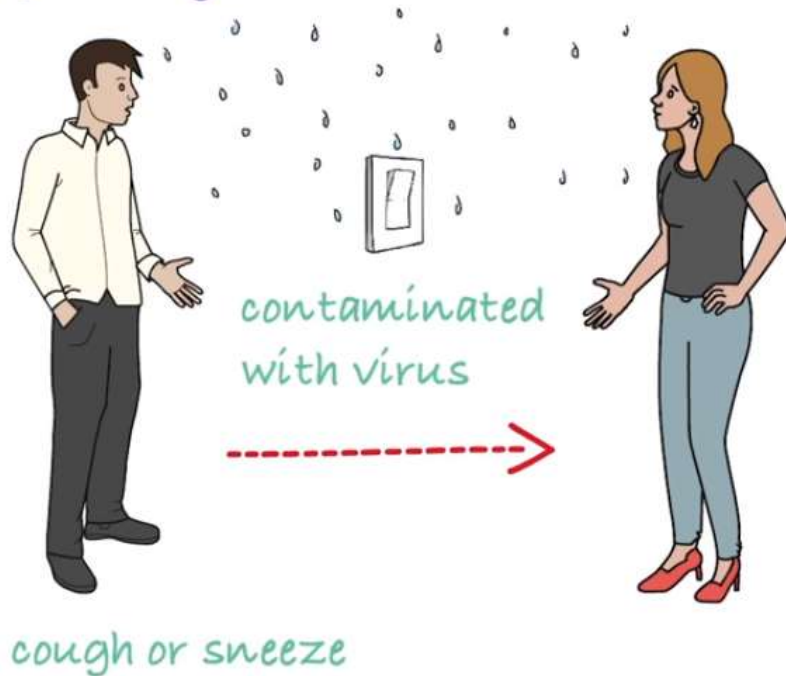
PART THREE

Infection Prevention & Control

IPC = Standard precaution +

TRANSMISSION - based precautions

exact dynamics yet to be determined
generally



Droplet & Airborne precautions

close contact with
animals

live animal
market workers



caring for those
with infection

family members or
healthcare workers



Contact precautions

Standard Precautions

Routinely applied for all **patients**

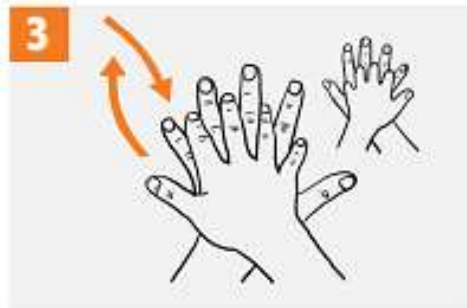
COMPONENTS:

- ◆ **Hand hygiene** - to remove or kill microorganisms that colonize the hands
- ◆ **Use of personal protective equipment (PPE)** - **to create a barrier** between HCWs and patient's blood, body fluids, secretions (**including respiratory secretions**) and non-intact skin.
- ◆ **Aseptic technique**
- ◆ **Respiratory Hygiene and Cough Etiquette**
- ◆ **Prevention of needle-prick or sharps injury**
- ◆ **Linens**
- ◆ **Infectious waste disposal**
- ◆ **Cleaning and disinfection of equipment** between patients
- ◆ **Cleaning of environment**
- ◆ **Patient placement**

Hand hygiene (HH) -Steps



Apply a palmful of the product in a cupped hand, covering all surfaces.



Right palm over left dorsum with interlaced fingers and vice versa.



Palm to palm with fingers interlaced.



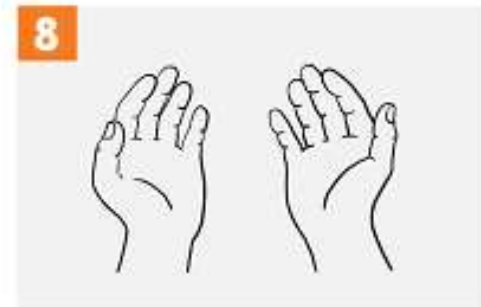
Back of fingers to opposing palms with fingers interlocked.



Rotational rubbing of left thumbs clasped in right palm and vice versa.



Rotational rubbing, backwards and forwards with clasped fingers to right hand in left palm and vice versa.



Once dry, your hands are safe.

Sequence for donning PPE

- ▶ Hand wash
- ▶ Gown
- ▶ Mask (Surgical or N95)
- ▶ Goggles or face shield (for eye protection)
- ▶ Gloves (non-sterile)

Sequence of removing PPE

- ▶ Gloves
- ▶ Hand wash

Hand Hygiene after removal of gloves, masks, goggles and face shield as their outside is usually contaminated.

- ▶ Mask or respirator
- ▶ Hand wash

General D for N

DOFFING PROCEDURE – STEPS APPLICABLE TO ALL MODELS DISPOSABLE N95 RESPIRATORS

The following instructions must be followed by you and your hands and inspect the respirator to ensure straps, and metal nose-clip.

Always remove an N95 respirator by using the straps only. Do not touch the front of the N95 respirator.

1. Cup the nosepiece in your hands with the nosepiece at fingertips, allowing the headbands to hang freely below hands.



3. Pull the top strap over your head so it rests high on the back of the head.



5. Using both hands, mold the metal nosepiece (if present) to the shape of your nose by pinching inward while moving fingers down both sides of the nosepiece.



1. Perform hand hygiene

2. Without touching the front of the respirator, slowly lift the **bottom** strap from around your neck up and over your head while keeping the respirator seated against your face. Let the strap drop and hang in the front of the respirator.

3. Lift the **top** strap and while maintaining tension move hands forward then slowly release tension and carefully remove the respirator without allowing the outside of the respirator to come in contact with your body.

4. Discard respirator according to the infection control policy

5. Perform hand hygiene

If you cannot achieve proper fit, DO

What is N95 fit test?

- A “**fit test**” tests the seal between the respirator's facepiece and your face.
- A fit test should **not** be confused with a user **seal check**.
- A user **seal check** - **a quick check** performed by the wearer each time the respirator is put on. It determines if the respirator is properly seated to the face or needs to be readjusted.
- There are two types of fit tests: qualitative and quantitative.
- **Qualitative** fit testing is a **pass/fail test** method that **uses your sense of taste** to an irritant in order **to detect leakage** into the respirator facepiece.
- **After passing a fit test** with a respirator, **you must use the exact same make, model, style, and size respirator** on the job.
- Qualitative fit testing does not measure the actual amount of leakage.
- Quantitative fit testing uses a machine to measure the actual amount of leakage into the facepiece and does not rely upon your sense of taste in order to detect leakage.

Dear Visitor
Inform the nursing station before entering the Isolation room



عزيزي الزائر
الرجاء إبلاغ مكتب التمريض قبل دخول غرفة العزل



Droplet & Contact Precautions

In addition to Standard Precautions

Before entering room



1 نظف يديك
Perform hand hygiene



2 ارتدي الرداء الواقي
Put on gown



3 ضع القناع الطبي
Put on mask



4 ارتدي القفازات
Put on gloves

Before leaving room



1 انزع القفازات
Remove gloves



2 نظف يديك
Perform hand hygiene



3 انزع الرداء الواقي
Remove gown



4 نظف يديك
Perform hand hygiene

After leaving room



1 انزع القناع الطبي
Remove mask



2 نظف يديك
Perform hand hygiene



مملكة البحرين - وزارة الصحة
دائرة الوقاية وبرامج التحكم في العدوى

Central Department of Infection
Prevention and Control

Infection prevention and control measures

At Triage

A Suspect patient

- Provide surgical mask
- Suspected patient in separate area or isolation if available
- 1 m distance between suspected patient and others
- Ensure cough hygiene/etiquette
- Ensure hand hygiene

Apply **Droplet & contact precautions**:

- for suspected or confirmed cases **not critically ill**

Dear Visitor
Inform the nursing station before entering
the Isolation room



عزيزي الزائر
الرجاء ابلاغ مكتب التمريض قبل دخول غرفة العزل



Use eye protection
if there is risk of
splashes

Keep door
close all the
times

Airborne & Contact Precautions

In addition to Standard Precautions

Before entering room



1 نظف يديك
Perform hand hygiene



2 ارتدي الرداء الواقعي
Put on gown



3 ضع القناع التنفسي
Put on N95 mask



4 ارتدي القفازات
Put on gloves

Before leaving room



1 ارفع القفازات
Remove gloves



2 نظف يديك
Perform hand hygiene



3 ارفع الرداء الواقعي
Remove gown



4 نظف يديك
Perform hand hygiene

After leaving room



1 ارفع القناع التنفسي
Remove N95 mask



2 نظف يديك
Perform hand hygiene



سلطنة عمان - وزارة الصحة
دائرة المنقبة وبرامج التوعية الصحية

Central Department of Infection
Prevention and Control

Infection prevention and control measures

Apply Airborne & contact precautions:

- *for critically ill* and
- for critically ill and not critically ill *when performing aerosol generating procedures (AGP)* for suspected or confirmed cases.

Performing Aerosol-Generating Procedures (AGP)

- Performing AGP can **generate higher concentrations of infectious respiratory aerosols** than coughing, sneezing, talking, or breathing. These procedures potentially **put HCWs at an increased risk** for 2019-nCoV exposure.
- **Examples** of aerosol generating procedures: Bronchoscopy / Sputum induction / Intubation and/or extubation / Cardiopulmonary resuscitation / Open suctioning of airways / Manual ventilation via ambu bagging through a mask before intubation
- **Perform** these procedures **only if they are medically necessary** and cannot be postponed.
- **Limit the number of HCWs present** during the procedure to only those essential for patient care and support.
- **HCWs should wear** gloves, a gown, and either **a face shield** that fully covers the front and sides of the face **or goggles** and a **fitted N95 respirator** during aerosol-generating procedures.
- **Unprotected HCWs should not be in a room** during aerosol-generating procedure
- **Conduct environmental surface cleaning** following procedures.

Patient Placement

- Patient who is ***not critically ill*** in a **single isolation room** with dedicated toilet facility.
- ***Critically ill*** patient (e.g. pneumonia with respiratory distress) in an **Airborne Infection Isolation Rooms** (Negative Pressure Rooms)
- When single rooms are not available, **cohort patients with the same diagnosis BUT suspected 2019-nCoV cases are not mixed with confirmed ones.**
- Put the **isolation sign** so that it is visible and clear for all HCWs, patients and visitors.
- Ensure **availability of PPE** by the patient isolation room.
- Use either **disposable equipment or dedicated equipment** (e.g. stethoscopes, blood pressure cuffs and thermometers). **If sharing equipment is unavoidable, clean and disinfect it after each patient use.**
- Use the **log sheet for all persons who enter the isolation room**

Patient Transport

- **Patients should wear a surgical mask** to contain secretions (N95 mask is not required for this purpose).
- Ensure that healthcare workers (**HCWs**) who are transporting patients **wear appropriate PPE** and perform hand hygiene when appropriate.
- **Family members and close relatives to be discouraged** from travelling in the same vehicle. If this is not possible, they must be evaluated for fever and lower respiratory symptoms and either is present they must wear a surgical mask during transport.
- **Clean and disinfect the vehicle** according to the housekeeping policy

Managing the Visitor to the Patient

- Consider visitors who have been in contact with the patient before and during hospitalization a possible source of 2019-nCoV for other patients, visitors, and staff.
- Facilities should develop ***visitor restriction policy***
- Visits to patients in isolation for 2019-nCoV should be scheduled and controlled
- In circumstances, such as end-of-life situations, where exemptions to the restriction may be considered at the discretion of the facility.
- All visitors should follow precautions for ***respiratory hygiene and cough etiquette***.
- Screening visitors for symptoms of acute respiratory illness before entering the hospital.
- **Instruct visitors** before entering patients' rooms, on hand hygiene, use of PPE and to limit touching surfaces
- Visitors/attendants ***should not be present during aerosol-generating procedures***.

Environmental Cleaning and Disinfection

- Housekeeping personnel should wear PPE
- Use MOH-approved disinfectant, follow manufacturer's recommendations for dilution (i.e., concentration) and contact time
- The patient ***isolation room*** or cohort area to be cleaned and disinfected at least daily and more often when visible soiling/contamination occurs.
- Give special attention to ***frequently touched surfaces*** (e.g., bedrails, bedside and over-bed tables, TV control, call button, lavatory surfaces including doorknobs, commodes) in addition to floors and other horizontal surfaces.
- Wipe external ***surfaces of portable equipment*** in the patient's room with a MOH -approved disinfectant
- **After an aerosol-generating procedure** (e.g., intubation), **clean and disinfect horizontal surfaces** around the patient.
- Privacy curtains are to be removed after patient discharge and placed in a bag for transport to the laundry.
- After discharge, follow standard procedures for terminal cleaning of an isolation room.

Linen and Laundry

- Place soiled linen directly into a red laundry bag in the patient's room. **Close the bag** securely
- **Wear gloves and gown** when directly handling soiled linen and laundry (e.g., bedding, towels, personal clothing).
- **Do not shake** soiled linen in a manner that might aerosolize infectious particles.
- Wash and dry linen per the Laundry services Policy.

Medical Waste

- Dispose of 2019-nCoV contaminated medical waste in **yellow bag**.
- Wear disposable **gloves** when handling waste.
- Perform **hand hygiene** after removal of gloves.

Administrative Interventions in Health care facilities

- Availability of **instructions** for patients and persons who accompany them (e.g., family, friends) - **to inform** health care personnel of **symptoms of acute respiratory illness** (fever, cough, sore throat, breathing difficulty) and **DISPLAY** them in the outpatient departments and registration counter.
- All persons with symptoms of a respiratory infection should adhere to **respiratory hygiene and cough etiquette, hand hygiene. DISPLAY POSTERS**
- Provide space and encourage **persons with symptoms of respiratory infections to sit as far away from others as possible.**
- Provide **supplies to perform hand hygiene to all** patients upon arrival to facility (e.g., at entrances of facility, waiting rooms, at patient check-in)
- Special attention for **healthcare worker training** and ensure their competency **in hand hygiene**, the proper **use and disposal of PPE including N95**. N95 mask fit test to ensure their proper size and shape and they should be trained on **donning and doffing** procedure for **PPE, case definition of n CoV** and **surveillance algorithm**
- One sensible step is to focus on the **flu vaccine coverage** of HCWs and persons at risk, which will reduce the burden on health services.

Infection prevention and control messages to the public



تجنب التواصل المباشر مع أي شخص يعاني من أعراض الزكام أو الإلتهاب التنفسي.

Avoid close contact with anyone with cold or flu-like symptoms



تجنب المخالطة المباشرة للحيوانات والدواجن .

No unprotected contact with live wild or farm animals.



التأكد من طبخ المنتجات الحيوانية كاللحوم والبيض جيدا قبل تناولها.

Thoroughly cook meat and eggs



إستخدام المنديل أو كُمام اليد عند العطس أو السعال.

Cover nose and mouth when coughing and sneezing with tissue or flexed elbow.



غسل اليدين بالماء والصابون أو إستخدام المعقم الكحولي المعتمد.

Clean hands with soap & water or alcohol-based hand rub

THANK YOU