COVID-19 Quick Reference SOPs
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INFORMATION ABOUT FREQUENTLY ASKED QUESTIONS: COVID-19

**Disease**
- Coronavirus disease 2019 (COVID-19)

**Organism**
- SARS-coronavirus-2 (SARS-CoV-2)

**Incubation period**
- Most estimates show about 1-14 days

**Period of infectivity**
- Not sure
- Asymptomatic transmission possible

**Modes of transmission**
- Person to person spread via respiratory droplets produced when an infected person coughs or sneezes (usually within 6 feet distance)
- Spread from contact with infected surfaces or objects

**Symptoms**
- Fever (some people may not have fever)
- Cough
- Shortness of breath

**Outcome**
- Severe disease in 15-20%
- Critical care needed in ~ 3-5%
- Mortality ~ 1-2%

**Risk groups**
- Elderly
- People with underlying conditions like hypertension, COPD/ other chronic lung conditions, diabetes and other cardiovascular and cerebrovascular conditions and immunocompromising conditions
- Smokers
- Pregnancy
COVID-19 CASE DEFINITION FOR A SUSPECTED CASE (as of 28th February 2020):

A. Patient with any acute respiratory illness (fever* and at least one sign/symptom of respiratory disease (e.g., cough, shortness of breath),
AND
no other etiology that fully explains the clinical presentation
AND
a history of travel to or residence in a country/area or territory reporting local transmission of COVID-19 disease during the 14 days prior to symptom onset.

OR

B. Patient with any respiratory illness
AND
having been in contact with a confirmed or probable COVID-19 case in the last 14 days prior to onset of symptoms

OR

C. Patient with SARI
AND
no other etiology that fully explains the clinical presentation

SARI is defined as an acute respiratory infection (ARI) with history of fever* or measured temperature ≥38°C and cough; with onset within last 14 days and requiring admission to hospital.

*Absence of fever does NOT exclude viral infection

Please follow WHO daily situation updates https://www.who.int/emergencies/diseases/novel-coronavirus-2019/situation-reports
COVID-19: INITIAL RESPONSE AT HEALTH FACILITY

Identify Cases

- Patient with severe acute respiratory infection (SARI) OR
- Patient with acute respiratory infection (ARI) AND
- Contact with suspected or confirmed COVID-19 patient OR
- Travel to COVID-19 affected area

Prevent transmission

- Give medical mask
- Isolate patient (keep in a separate room or maintain 3 feet between patients)
- Cover cough with tissue and discard in lined dustbin
- Frequently wash hands with soap and water/ use alcohol based hand rub

Protect (HCW & close contacts)

- HCW wear medical mask, goggles, gloves and gown
- Use dedicated equipment for patient OR clean after use (stethoscope maybe wiped with a 70% isopropyl alcohol solution)
- Frequently wash hands with soap and water / use alcohol based hand rubs

Inform HPA

- Call HPA 1676
PERSONAL PROTECTIVE EQUIPMENTS: COVID -19

**Contact and Droplet precaution**

Note: For aerosol generating procedure (such as open suctioning/ intubation use contact and airborne precaution

**Clean hands, including before entering and when leaving the room**
- With soap and water if visibly soiled or
- Alcohol based hand rub

**GOWNS**
- Put on gown before room entry. Discard gown before room exit
- Do not wear the same gown and gloves for the care of more than one person.

**MASK and goggles / face shield**
- Make sure their eyes, nose and mouth are fully covered before room entry
- Remove face protection before room exit.

**GLOVES**
- Put on gloves before room entry.
- Discard gloves before room exit

**DEDICATED EQUIPMENTS**
- Use dedicated or disposable equipment.
- Clean and disinfect reusable equipment before use on another person
PERSONAL PROTECTIVE EQUIPMENTS: COVID-19

**AIRBORNE and CONTACT precaution**

Aerosol generating procedures:
- Open suctioning, intubation, sputum induction etc.

**STOP**

**Clean hands, including before entering and when leaving the room**
- Use soap and water if visibly soiled or
- Alcohol based hand rub

**GOWNS**
- Put on gown before room entry. Discard gown before room exit
- Do not wear the same gown and gloves for the care of more than one person.

**USE N-95 MASK**
- Make sure their eyes, nose and mouth are fully covered before room entry
- Remove mask AFTER room exit.

**EYE PROTECTION with GOGGLES**
- Make sure their eyes are fully covered before room entry
- Remove eye/face protection just before room exit/in anteroom if available.

**GLOVES**
- Put on gloves before room entry.
- Discard gloves before room exit

**DOOR TO ROOM MUST REMAIN CLOSED**

**STOP**
FACIAL HAIRSTYLES FOR HCWS USING N95 MASKS

*If your respirator has an exhalation valve, some of these styles may interfere with the valve working properly if the facial hair comes in contact with it.*

This graphic may not include all types of facial hairstyles. For any style, hair should not cross under the respirator sealing surface.

Source: NIOSH Respiratory Protection Standard
https://www.cdc.gov/niosh/npptl/index.html
Footer Reading: NIOSH/Respiratory Health and Safety
https://www.cdc.gov/niosh/npptl/index.html
SEQUENCE FOR PUTTING ON PERSONAL PROTECTIVE EQUIPMENT (PPE)

Type of PPE used will vary based on the level of precaution

Wash hands -> Gown -> Mask or Respirator -> Goggles or Face Shield -> Gloves

1. GOWN
   • Fully cover torso from neck to knees, arms to end of wrists, and wrap around the back
   • Fasten in back of neck and waist

2. MASK OR RESPIRATOR
   • Secure ties or elastic bands at middle of head and neck
   • Fit flexible band to nose bridge
   • Fit snug to face and below chin
   • Fit-check respirator

3. GOGGLES OR FACE SHIELD
   • Place over face and eyes and adjust to fit

4. GLOVES
   • Extend to cover wrist of isolation gown
SEQUENCE FOR PUTTING OFF PERSONAL PROTECTIVE EQUIPMENT (PPE) x1

Remove: Gloves -> Gown -> Goggles or Face Shield -> Mask or Respirator

How to Safely Remove Personal Protective Equipment (PPE) Example 2

1. Gown and Gloves
   - Gown front and sleeves and the outside of gloves are contaminated.
   - If your hands get contaminated during gown or glove removal, immediately wash your hands or use an alcohol-based hand sanitizer.
   - Grasp the gown in the front and pull away from your body so that the ties break, touching outside of gown only with gloved hands.
   - While removing the gown, fold or roll the gown inside-out into a bundle.
   - As you are removing the gown, peel off your gloves at the same time, only touching the inside of the gloves and gown with your bare hands. Place the gown and gloves into an infectious* waste container.

2. Goggles or Face Shield
   - Outside of goggles or face shield are contaminated!
   - If your hands get contaminated during goggle or face shield removal, immediately wash your hands or use an alcohol-based hand sanitizer.
   - Remove goggles or face shield from the back by lifting head band and without touching the front of the goggles or face shield.
   - If the item is reusable, place in designated receptacle for reprocessing. Otherwise, discard in an infectious* waste container.

3. Mask or Respirator
   - Front of mask/respirator is contaminated — DO NOT TOUCH!
   - If your hands get contaminated during mask/respirator removal, immediately wash your hands or use an alcohol-based hand sanitizer.
   - Grasp bottom ties or elastics of the mask/respirator, then the ones at the top, and remove without touching the front.
   - Discard in an infectious* waste container.

4. Wash Hands or Use an Alcohol-Based Hand Sanitizer Immediately After Removing All PPE

*An infectious waste container is used to dispose of PPE that is potentially contaminated with Ebola virus.

Perform hand hygiene between steps if hands become contaminated and immediately after removing all PPE.
SEQUENCE FOR PUTTING OFF PERSONAL PROTECTIVE EQUIPMENT (PPE) x2

Remove: Gloves -> Goggles or Face Shield -> Gown -> Mask or Respirator

**HOW TO SAFELY REMOVE PERSONAL PROTECTIVE EQUIPMENT (PPE)**

**EXAMPLE 1**

There are a variety of ways to safely remove PPE without contaminating your clothing, skin, or mucous membranes with potentially infectious materials. Here is one example. Remove all PPE before exiting the patient room except a respirator, if worn. Remove the respirator after leaving the patient room and closing the door. Remove PPE in the following sequence:

1. **GLOVES**
   - Outside of gloves are contaminated!
   - If your hands get contaminated during glove removal, immediately wash your hands or use an alcohol-based hand sanitizer.
   - Using a gloved hand, grasp the palm area of the other gloved hand and peel off first glove.
   - Hold removed glove in gloved hand.
   - Slide fingers of ungloved hand under remaining glove at wrist and peel off second glove over first glove.
   - Discard gloves in an infectious* waste container.

2. **GOGGLES OR FACE SHIELD**
   - Outside of goggles or face shield are contaminated!
   - If your hands get contaminated during goggle or face shield removal, immediately wash your hands or use an alcohol-based hand sanitizer.
   - Remove goggles or face shield from the back by lifting head band or ear pieces.
   - If the item is reusable, place in designated receptacle for reprocessing. Otherwise, discard in an infectious* waste container.

3. **GOWN**
   - Gown front and sleeves are contaminated!
   - If your hands get contaminated during gown removal, immediately wash your hands or use an alcohol-based hand sanitizer.
   - Unfasten gown ties, taking care that sleeves don’t contact your body when reaching for ties.
   - Pull gown away from neck and shoulders, touching inside of gown only.
   - Turn gown inside out.
   - Fold or roll into a bundle and discard in an infectious* waste container.

4. **MASK OR RESPIRATOR**
   - Front of mask/respirator is contaminated — DO NOT TOUCH!
   - If your hands get contaminated during mask/respirator removal, immediately wash your hands or use an alcohol-based hand sanitizer.
   - Grasp bottom ties or elastic of the mask/respirator, then the ones at the top, and remove without touching the front.
   - Discard in an infectious* waste container.

5. **WASH HANDS OR USE AN ALCOHOL-BASED HAND SANITIZER IMMEDIATELY AFTER REMOVING ALL PPE**

* An infectious waste container is used to dispose of PPE that is potentially contaminated with Ebola virus.

**PERFORM HAND HYGIENE BETWEEN STEPS IF HANDS BECOME CONTAMINATED AND IMMEDIATELY AFTER REMOVING ALL PPE**
Important points:

• PPE
  
  o Sequence of putting on PPE:
    ▪ Wash hands -> Gown -> Mask or Respirator -> Goggles or Face Shield -> Gloves
  
  o Sequence for removing PPE
    ▪ Remove: Gloves -> Gown -> Goggles or Face Shield -> Mask or Respirator and wash hands
    OR
    ▪ Gloves -> Goggles or Face Shield -> Gown -> Mask or Respirator and Wash hands

• Clean areas you can touch while removing
  o The inside and back of the gown, gown’s ties, inside of the gloves, ear pieces/straps of mask/goggles/respirator/face shield

• Dirty area you can't touch while removing
  o Outside the front of the gloves, gown (includes sleeves), and outside of the mask, face shield, goggles, respirator
  o If you touch any of the dirty parts while removing PPE, perform hand hygiene with soap and water or alcohol based hand rub and then move to the next step of removal of PPE
CLEANING PROCEDURES

Hand Hygiene

• Use soap and water OR alcohol based hand rub (>60% ABHR) before starting to clean
• SOAP AND WATER is preferred if hands are visibly soiled, after going to toilet, after cleaning procedures and before eating.
• Dry hands preferably with disposable paper towels/tissue or use clean cloth towels and replace them when wet.

Personal Protective Equipment (PPE)

Before starting to clean wear PPE:
Gloves, Mask, Water proof apron/gowns, Goggles / face shield

Surfaces and reusable materials
(bed room furnishings, bath room, heavy duty gloves)

• Clean with soap/detergent & water -> Rinse with water -> disinfect with bleach in the following dilution
• Surfaces in patient area diluted bleach solution 1ml bleach in : 9ml water and keep for 10min contact time
• The bleach solution should be prepared fresh every 24 hourly and kept in closed container
• If diluted bleach solution cannot be used on a surface (like metal) 70% ethanol maybe used

Linen/laundry and utensils

• Use a laundry bag to collect dirty laundry do not carry dirty clothes against your body and do not shake clothes
• Wash clothes with laundry detergent/soap in hot water (60-90 °C) and dry well. Bleach maybe added if available.
• Plates : Wash with regular dish washing liquid and dry. The plates can be reused.
• Do not share towels /beds/clothes/plates

Used masks, gloves and other waste should be discarded in a dustbin lined with a water proof bag inside it. When the dustbin is 2/3rd full the bag should be sealed closed and taken to waste disposal area marked as infectious waste.
SPILL DECONTAMINATION

**PPE**
- Gloves, mask, apron/gown and if expecting splash use goggles/face shield.

**CONTAIN**
- Contain the spill by covering with paper towels or other absorbent material
- Saturate the contaminated area with 1% Sodium Hypochlorite solution (1:5 dilutions) and mark the area well
- Wait for minimum 10 minutes

**DISPOSE**
- Remove any broken pieces by tongs/forceps or brush and pans (do not pick up pieces with your hands)
- Dispose all contaminated materials in biohazard a bag

**DISINFECT**
- Swab the contaminated area with 1% sodium hypochlorite solution (1:5 dilutions)
- Remove gloves and PPE and wash hands with soap and water.

Reusable items should be disinfected before use.
For routine surface cleaning in laboratory: use Sodium Hypochlorite solution at 0.1% (1:50 dilution).
### Inform HPA

- All suspected cases of COVID-19 should be informed to HPA via HPA toll free number **1676**
- HPA will decide for further evaluation or transportation of patient to a COVID-19 care center.
- HPA will also guide the clinician on management of close contacts

### Sending facility

- Inform transport department about patient’s condition, any special requirements during transportation.
- Inform nursing team and doctors at the receiving facility regarding patients condition. If possible give an estimated time of arrival.
- A written summary of the case should accompany the patient.

### IPC measures for patient

- Patient should wear a medical mask.
- The surface on which patient is seated (wheel chair/ vehicle seat) or lying down (stretcher) should be covered with a sheet or other physical barrier.
- Tissue and hand sanitizer should be provided to the patient.

### IPC measures for transport personnel

- Should wear gloves, mask and gown/overall.
- Staff who were taking care of the patient in the facility should change to new PPE if they are going to accompany the patient during transport.
- After transportation of patient, wash hands with soap and water or an alcohol based hand rub after gloves are removed.
- The gowns/overall maybe discarded if reusable maybe washed and reused.

### Transporting the patient

- The most direct route to the destination should be taken.
- Avoid contact with staff of the facility and visitors as much as possible.
- Open the windows of the vehicle to allow ventilation

### Disinfection of vehicle and surfaces after transport

- Cleaning of wheelchairs should focus on the seat, arm rest, and back rest.
- Cleaning of stretchers should focus on upper and lower surface of the stretcher pad.
- Inspect the padded and metal parts of wheelchairs and stretches for contamination with blood and other body fluids.
- Household soap or detergent should be used for cleaning the surfaces first and then, after rinsing, regular household disinfectant containing 0.5% sodium hypochlorite (i.e. 1-part bleach to 9 parts of water) should be applied. If the surface has been contaminated with blood or body fluids use 1% sodium hypochlorite solution (1 part bleach to 5 parts of water) (refer to cleaning and spill decontamination protocol)
## SAMPLE COLLECTION PROTOCOL

### Type of Specimen
- **Lower respiratory specimens are prefered** as higher diagnostic value
- *lower respiratory specimens*: sputum, endotracheal aspirate, or bronchoalveolar lavage fluid
- *upper respiratory tract samples*: nasopharyngeal (NP) aspirate or combined oropharyngeal (OP) and nasopharyngeal (NP) swabs if not possible for lower respiratory sample

### PPE and IPC Measures
- Use Gloves, Mask, Goggles/Eye shield and long sleeved Gowns
- Use N95 mask with goggles, gloves and gowns if collected under aerosole generating procedures (tracheal aspiration, bronchoalveolar lavage or by sputum induction)
- Fluid resistant gown: if anticipating increased fluid exposure

### Collection Medium
- NP/OP swab: Swabs used for influenza sampling
- Lower respiratory samples: sterile container
- Use VTM (viral transportation medium) for transportation and the OP and NP swab maybe kept in the same VTM.
- Keep the samples in 2-8°C (in a fridge) immediately, if any delay in transporting

### Sample Transportation
- Label properly and to put a sticker to identify the samples as **COVID-2019 suspected**
- Specimens in viral transport media and other samples like blood, urine should be packed in separate zip lock bags individually
- All samples of same patients should be packed in a big zip lock bag and sealed properly
- Samples should be transported by hand with proper documents (Request forms /case reporting form for acute respiratory illness)
- Transport in **cooler box with ice packs** (if sent from another center other than IGMH).
- If any spillage during transport, to follow spill decontamination procedure
Suspected case of COVID-19

Send 1st sample for RT-PCR

Patient has mild disease clinically Stable

Patient has severe disease

Results of 1st Sample

1st or 2nd sample positive

CONFIRMED COVID-19

Send sample for RT-PCR after complete clinical recovery (samples may be repeated at least 24 hours apart until 2 consecutive samples negative)

Discharge patient
But continue home isolation (until 4 weeks from onset of illness)

Result Positive

2 consecutive samples negative

Discharge patient
But continue home isolation (until 4 weeks from onset of illness)

Result negative

Repeat sampling from multiple sites, take lower respiratory sample if possible

Clinical condition not improving / deteriorating (COVID-19 cannot be ruled out)

Clinical condition improving (probability of COVID-19 is low)

Negative

Discharge patient
But continue home isolation (until 4 weeks from onset of illness)

Repeat alternate diagnosis. Repeat testing if strong suspicion of COVID-19. Discuss with task force.

Result positive
TRIAGE AND CLINICAL MANAGEMENT OF A CASE OF SUSPECTED COVID-19 INFECTION

<table>
<thead>
<tr>
<th>Surveillance Case Definition</th>
<th>Suspected case</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>If the patient fits criteria A, B or C given below, he/she is a suspected case of COVID-19 infection:</td>
</tr>
</tbody>
</table>

A. Patient with **any acute respiratory illness** (fever* and at least one sign/symptom of respiratory disease (e.g., cough, shortness of breath),

AND

no other etiology that fully explains the clinical presentation

AND

a history of travel to or residence in a country/area or territory reporting local transmission of COVID-19 disease during the 14 days prior to symptom onset.

OR

B. Patient with **any respiratory illness**

AND

having been in contact with a confirmed or probable COVID-19 case in the last 14 days prior to onset of symptoms

OR

C. Patient with **SARI**

AND

no other etiology that fully explains the clinical presentation

*SARI is defined as an acute respiratory infection (ARI) with history of fever* or measured temperature ≥38°C and cough; with onset within last 14 days and requiring admission to hospital.

*Absence of fever does NOT exclude viral infection*
<table>
<thead>
<tr>
<th>Clinical Syndrome</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Uncomplicated Illness</strong></td>
<td>Low-grade fever, cough, malaise, rhinorrhea, sore throat <strong>without any warning signs</strong>, such as shortness of breath or difficulty in breathing, haemoptysis, gastro-intestinal symptoms such as nausea, vomiting, and/or diarrhoea and without changes in mental status (i.e. confusion, lethargy). <strong>No underlying chronic conditions</strong> such as lung or heart disease, renal failure, or immunocompromising conditions.</td>
</tr>
<tr>
<td><strong>Mild pneumonia</strong></td>
<td>Patient with pneumonia and no signs of severe pneumonia. Child with non-severe pneumonia has cough or difficulty breathing + fast breathing: fast breathing (in breaths/min): &lt;2 months, ≥60; 2–11 months, ≥50; 1–5 years, ≥40 and no signs of severe pneumonia.</td>
</tr>
</tbody>
</table>
| **Severe pneumonia** | **Adolescent or adult**: fever or suspected respiratory infection, plus any one of the following:  
  - Respiratory rate >30 breaths/min  
  - Severe respiratory distress  
  - SpO2 < 90% on room air.  

**Child**: Cough or difficulty in breathing, plus at least one of the following:  
  - Central cyanosis or SpO2 <90%  
  - Severe respiratory distress (e.g. grunting, very severe chest indrawing)  
  - Signs of pneumonia with a general danger sign: inability to breastfeed or drink, lethargy or unconsciousness, or convulsions. |
| **Acute Respiratory Distress Syndrome** | **Onset**: new or worsening respiratory symptoms within one week of known clinical insult.  
**Chest imaging** (radiograph, CT scan, or lung ultrasound): bilateral opacities, not fully explained by effusions, lobar or lung collapse, or lung nodules.  
**Origin of oedema**: respiratory failure not fully explained by cardiac failure or fluid overload.  
**Oxygenation (adults)**:  
  - Mild ARDS: 200 mmHg < PaO2/FiO2 ≤ 300 mmHg (with PEEP or CPAP ≥5 cmH2O, or non-ventilated)  
  - Moderate ARDS: 100 mmHg < PaO2/FiO2 ≤200 mmHg with PEEP ≥5 cmH2O, or non-ventilated)  
  - Severe ARDS: PaO2/FiO2 ≤ 100 mmHg with PEEP ≥5 cmH2O, or non-ventilated |

*PaO2/FiO2* is the ratio of arterial oxygen tension to inspired oxygen fraction.
- When PaO2 is not available, SpO2/FiO2 ≤315 suggests ARDS (including in non-ventilated patients)

**Oxygenation in Children:** (note OI = Oxygenation Index and OSI = Oxygenation Index using SpO2):

- Bilevel NIV or CPAP ≥5 cmH2O via full face mask: PaO2/FiO2 ≤ 300 mmHg or SpO2/FiO2 ≤264
- Mild ARDS (invasively ventilated): 4 ≤ OI < 8 or 5 ≤ OSI < 7.5
- Moderate ARDS (invasively ventilated): 8 ≤ OI < 16 or 7.5 ≤ OSI < 12.3
- Severe ARDS (invasively ventilated): OI ≥ 16 or OSI ≥ 12.3

### Sepsis

**Adults:**

life-threatening organ dysfunction caused by a dysregulated host response to suspected or proven infection, with organ dysfunction.

**Signs of organ dysfunction include:** altered mental status, difficult or fast breathing, low oxygen saturation, reduced urine output, fast heart rate, weak pulse, cold extremities or low blood pressure, skin mottling, or lab evidence of coagulopathy, thrombocytopenia, acidosis, high lactate or hyperbilirubinemia.

**Children:**

suspected or proven infection and ≥2 SIRS criteria, of which one must be abnormal temperature or white blood cell count.

### Septic shock

**Adults:**

persisting hypotension despite volume resuscitation, requiring vasopressors to maintain MAP ≥65 mmHg and serum lactate level >2 mmol/L.

**Children:** any hypotension (SBP <5th centile or >2 SD below normal for age) or 2-3 of the following: altered mental state; tachycardia or bradycardia (HR <90 bpm or >160 bpm in infants and HR <70 bpm or >150 bpm in children); prolonged capillary refill (>2 sec) or warm vasodilation with bounding pulses; tachypnea; mottled skin or petechial or purpuric rash; increased lactate; oliguria; hyperthermia or hypothermia.
TRIAGE AND MANAGEMENT OF A CASE OF SUSPECTED COVID-19 INFECTION

**Call received by HPA Hotline (1676)**

Patient meets the case definition

- Patient is transferred by ambulance to Hulhumale COVID centre *
- Ambulance staff will attend in PPE

**At Hulhumale COVID centre:**

- IPC measures
- Clinical assessment
- Inform Respiratory physician/ On call Physician/Pediatrician on call
- Respiratory sample collection for viral detection for all cases
- CXR and blood tests as clinically indicated
- Triage to level of care

**Uncomplicated Illness**

Transfer to designated isolation facility

- Educate patient on personal hygiene and IPC measures
- Symptomatic treatment of ARI
- Daily clinical assessment to see if any features of SARI develop

Does patient fit the criteria of SARI?

**Mild pneumonia**

Admission in designated isolation facility

- Supportive treatment
- Oxygen therapy
- To cover for possible influenza/bacterial infection, start empirical antibiotics and Oseltamivir
- Fluids as needed
- Monitoring for respiratory failure and sepsis and upgrade to critical care if deterioration.

**Severe pneumonia, ARDS, Sepsis or Septic shock**

Admission in Dharumavantha hospital critical care facility

- Supportive treatment
- Oxygen therapy
- To cover for possible influenza/bacterial infection start empirical antibiotics and Oseltamivir
- Fluids as needed
- Monitoring for progressive respiratory failure

* If suspected case is identified outside greater male area, in a island, patient will be transferred by sea ambulance directly to designated isolation facility.
CLINICAL MANAGEMENT OF SARI IN ADULTS WHEN COVID-19 IS SUSPECTED

Oxygen therapy

- Give supplemental oxygen therapy immediately to patients with SARI and respiratory distress, hypoxaemia, or shock.
- Initiate oxygen therapy at 5 L/min and titrate flow rates.
- Target SpO2 ≥90% in non-pregnant adults and SpO2 ≥92-95% in pregnant patients.

Fluids

- Conservative fluid management in patients with SARI when there is no evidence of shock.
- In resuscitation from septic shock in adults, give at least 30 ml/kg of isotonic crystalloid.
- Perfusion targets include MAP >65 mmHg, urine output >0.5 ml/kg/hr in adults, and improvement of skin mottling, capillary refill, level of consciousness, and lactate level.
- Administer vasopressors when shock persists after fluid resuscitation (Intra venous Noradrenaline is the preferred first-line in adult patients).

Empirical antibiotics

- Patients with sepsis should receive antimicrobials within one hour of presentation to hospital.
- Empirical antibiotic should be based on the clinical diagnosis (CAP, HAP, or sepsis).
- Empiric therapy should include coverage for influenza when there is local circulation of influenza in the community.
- Antibiotics should be de-escalated on the basis of microbiology results and clinical judgment.

Close monitoring

- Monitor for clinical deterioration, such as progressive respiratory failure and sepsis.
- Apply supportive care interventions immediately.

Manage respiratory failure and ARDS

- Recognize hypoxemic respiratory failure when a patient with respiratory distress continues to have hypoxemia despite high flow oxygen.
- Non-invasive ventilation should not be used for patients with hemodynamic instability, multiorgan failure, or abnormal mental status and should be considered for intubation and mechanical ventilation.
- Endotracheal intubation should be performed using airbone precautions.
- Do not routinely give systemic corticosteroids for treatment of viral pneumonia or ARDS unless they are indicated for another reason.
MANAGEMENT OF CONTACTS

Close contact:

Health care associated exposure, including providing direct care for nCoV patients, working with health care workers infected with novel coronavirus, visiting patients or staying in the same close environment as a nCoV patient.

- Working together in close proximity or sharing the same classroom environment with a nCoV patient
- Traveling together with a nCoV patient in any kind of conveyance
- Living in the same household as a nCoV patient

Contact with a suspect/confirmed case:

Should be advised for quarantine for 14 days after the last contact with a suspected COVID-19 infected patient.

Healthcare worker should be defined as all staff in the health care facility involved in the provision of care for a COVID-2019 infected patient (clinical and non-clinical contact with patient or contaminated surface or materials):

- If a healthcare associated exposure occurs to a confirmed case without appropriate PPE, the HCW would be advised for home quarantine even if asymptomatic

If a HCW taking care of a confirmed/suspected case becomes symptomatic the HCW will become a suspected case regardless of the proper use of PPE
### EXPOSURE RISK CATEGORIZATION (contacts)

<table>
<thead>
<tr>
<th>Risk Level</th>
<th>Description</th>
</tr>
</thead>
</table>
| **High Risk** | - Living in the same household as, being an intimate partner of, or providing care in a non-healthcare setting (such as a home) for a person with symptomatic laboratory-confirmed or suspected 2019-nCoV infection *without using recommended precautions*  
- Travel from Hubei Province, China |
| **Medium Risk** | - Close contact with a person with symptomatic 2019-nCoV infection, and *not having* any exposures that meet a high-risk definition.  
  - On an aircraft, being seated within 6 feet (two meters) of a traveler with symptomatic laboratory-confirmed 2019-nCoV infection; this distance correlates approximately with 2 seats in each direction  
  - Living in the same household as, an intimate partner of, or caring for a person in a non-healthcare setting (such as a home) to a person with symptomatic laboratory-confirmed 2019-nCoV infection *while consistently using recommended precautions*  
  - Travel from mainland China outside Hubei Province OR ANY OTHER COUNTRY IN RED AND not having any exposures that meet a high-risk definition  
  - Being in the same indoor environment (e.g., a classroom, a hospital waiting room) as a person with symptomatic laboratory-confirmed 2019-nCoV infection for a prolonged period of time but not meeting the definition of close contact |
COVID-19 HEALTH FACILITY PREPAREDNESS CHECK LIST

All hospitals should ensure their staff are trained, equipped and capable of practices needed to:

- Prevent the spread of respiratory diseases including COVID-19 within the facility
- Collect and provide updated information on SARI, ARI and pneumonia to HPA
- Promptly identify and isolate patients with possible COVID-19 and inform the correct facility staff and HPA
- Depending on the available resources facility should have provision to care for a limited number of patients with confirmed or suspected COVID-19 as part of routine operations
- Potentially care for a larger number of patients in the context of an escalating outbreak
- Monitor and manage any healthcare personnel that might be exposed to COVID-19
- Communicate effectively within the facility and appropriate external communication with HPA related to COVID-19

Please fill the boxes according to the facility preparedness

Green 😊: Accomplished

Orange 😐: Partially implemented/ in process

Red 🙁: Not initiated

<table>
<thead>
<tr>
<th>Important elements to be assessed</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Infection prevention and control policies and training of health care workers</strong></td>
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<tr>
<td>- The facility should have an identified COVID-19 taskforce responsible for organizing and implementing required measures</td>
</tr>
<tr>
<td>- All stakeholders including the front line staff in emergency department, Internal medicine, pulmonology, pediatrics, gynecology, staff at QID, laboratory staff, radiology technicians, physiotherapy units, dietetics, heads of services (house-keeping, transportation) should review the HPA guideline on care of COVID-19 patient</td>
</tr>
<tr>
<td>- Facility should have mechanism to collect, evaluate and provide the data on SARI, ARI and pneumonia to facility level COVID-19 task force and HPA</td>
</tr>
<tr>
<td>- Facility should provide education to all HCW and concerned staff regarding COVID-19 including:</td>
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</tbody>
</table>
2. **Process for rapidly identifying and isolating patients with confirmed or suspected COVID-19**

Instructions posted at entrance:
- Patients with respiratory symptoms should put on a mask and keep it on during their assessment,
- cover their mouth/nose when coughing or sneezing with tissue, and dispose of tissues in dustbins
- and perform hand hygiene after contact with respiratory secretions

Signs are posted in ER and OPD area
- Patients with fever or symptoms of respiratory infection and recent travel within 14 days to an area with known COVID-19 transmission in community, to immediately notify triage or counter personnel

Hand hygiene
- Alcohol based hand rub for hand hygiene should be made available at each entrance and in all common areas
- Soap and water with sinks available in toilets

Facility provides tissues and no-touch lined dustbins for disposal of tissues in waiting rooms and in common areas.

Facility has a separate well-ventilated space that allows waiting patients to be separated by 3 or more feet, with easy access to respiratory hygiene and cough etiquette supplies

Facility has a SOP on what to do after identification of a suspected case

3. **Patient placement**

Facility has an identified separate rooms or a separate ward for isolation of patients suspected to have COVID-19 infection.
- The room/ward should have good natural ventilation and open windows or a negative pressure room maybe used
- A designated ward maybe used for suspected COVID-19 patients with the bed distance kept at minimum 3 feet
- Provision for medical mask, tissues and a lined dustbin should be available
- Access to hand sanitizers and soap and water for hand hygiene should be available
- The ward/room should be in a place where other patients and staff do not visit. Only essential personnel should enter
- Facility has plans to minimize the number of HCW who enter the room/ward with suspected COVID-19 patients.
- Facilities should consider caring for these patients with dedicated HCW to minimize risk of transmission and exposure to other patients and HCW

There should be access to a separate (regularly cleaned) toilet for the suspected patients. The toilet should have a sink with access to soap and water.
4. **Transmission based precaution**  
Facility should have adequate PPE for all clinical and non-clinical staff involved in caring for COVID-19 patient (doctors, nurses, technicians, attendants, cleaners etc.)  
- Staff should be trained on proper use and indications of PPE  
- Medical mask, gown, gloves and eye protection for patient contact  
- N95 mask with other PPE when doing aerosol generating procedures  
- Fluid resistant gowns and face shield for procedures expecting splash  
- Provision of dedicated equipment’s for suspected patient  
- Ensure that staff working with suspected patients does not go to other wards in the hospital and visit to other areas of the hospital should only be after properly removing PPE and washing with soap and water.

5. **Hand hygiene**  
- Provision of alcohol based hand rub  
- Provision of soap and water with access to sinks to wash hands

6. **Movement of patients with confirmed or suspected COVID-19 within and out of facility**  
- Patient transportation within and outside the facility should be limited  
- There should be SOP on transportation of patient  
- Patient should be given a medical mask and a clean sheet should be kept on the stretcher or chair used to transport patient

7. **Environmental cleaning, laundry and waste disposal**  
- SOP should be there on environmental cleaning  
- Staff should be trained in cleaning procedures  
- Any linens used by the patients should be laundered in the hospital premises (refer to the cleaning guidelines)  
- Waste from the COVID-19 ward should be considered as infectious waste and should be segregated and should not be mixed with other common general waste.

8. **Monitoring and managing HCW**  
- It is recommended that staff should change to a scrub/separate clothes when on duty  
- The scrubs/clothes worn during the duty time should be washed on premises  
- Register should be kept in the wards/unit to track exposure of HCW  
- Facility has the process to conduct symptoms and temperature check of staff before start of shift.  
- All staff working in the hospital should have readily available access to medical consultations if symptoms develop  
- Symptomatic HCW should not come to work  
- Staff should be provided with a separate refreshments and toilet with shower facility if possible.  
- Facility should make provision for food and water to on duty HCW
9. **Visitor access and movement within the facility**
   - Visitors should not be allowed to enter area where COVID-19 patients are admitted
   - Facility should restrict all visitation to the hospital (visitation timing and numbers)
   - Facility should restrict visitors having acute respiratory illness (spread awareness through posters kept at the entrance)
   - Ensure that visitors limit their movement within facility
   - Visitors policy should be regularly reviewed

10. **Ensure adequate stock**
    - PPE
    - Medications as per the management guidelines (antibiotics, oseltamivir, IV fluids) and other consumables
    - Laboratory sampling materials (Viral transport media and synthetic swabs) and other consumables
    - Environmental cleaning products

11. **Facility should make provision for basic necessities for the patient including: food and water, clothing, toiletries etc.**
    - Ideally use designated utensils for the patient or disposable items
    - Plates and spoons should not be shared between patients

12. **Facility should regularly monitor and update the situation to HPA**
### PUBLIC HEALTH RISK LEVEL AND RESPONSE: COVID-19

<table>
<thead>
<tr>
<th>Colour: (risk level)</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>White (level I)</td>
<td>No case identified</td>
</tr>
<tr>
<td>Yellow (level II)</td>
<td>Imported case with no local human to human transmission (suspected or confirmed)</td>
</tr>
<tr>
<td>Orange (level III)</td>
<td>Human to human transmission directly linked to imported case (suspected or confirmed)</td>
</tr>
<tr>
<td>Red (level IV)</td>
<td><strong>Confirmed</strong> human to human transmission with no direct link to imported case</td>
</tr>
</tbody>
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**Escalating Response: National Level**

- **White**
  - Risk assessment.
  - Technical Advisory Group.
  - HEOC and HECC.
  - Public awareness.
  - International communications.
  - Airport/Port screening.
  - Identification of quarantine/isolation facilities.
  - Health facilities prepared.
  - Ensure all guidelines, medical supplies.
  - Health workforce trained.
  - Travel/Flu Clinic established.
  - Surveillance enhanced.

- **Yellow**
  - Daily briefings to Public and HF’s and HECC daily.
  - National Quarantine facility operational.
  - Reg. Isolation and treatment centers standby.
  - People quarantined.
  - Home quarantine.
  - Reinforce surveillance.
  - Additional stock piling of medical supplies at atoll level.
  - Backup health workforce standby.

- **Orange**
  - Public Health Emergency by Minister of Health (island/Atoll/Zone/National).
  - International and domestic aid/funds.
  - STO emergency stock.
  - International support.
  - Island task force coordination.
  - Police/MNDF/NDMA support.
  - Cabinet support and advice on price control.

- **Red**
  - National Public Health Emergency by the President.
  - Public Health Emergency by Minister of Health (island/Atoll/Zone).
  - Ministerial Coordination for providing health, food and essential NFI to islands.
  - International agencies coordination for the provision of the medication, equipment and other resources.
**Escalating Response: Island and Atoll Level**

**White**
- Establish health emergency taskforce and RRTs.
- Provide awareness.
- Training of doctors, nurses, health workers.
- Monitoring and reporting of related diseases.
- Quarantine/isolation facilities identified and on standby.
- Ensuring adequate stock of medical supplies.
- Arrangements for entry/exit screening.

**Yellow**
- Public advised to restrict non-essential travel to certain areas.
- Screen people exiting island.
- Suspected/confirmed case isolated and MOH on alert.
- Close contacts quarantined.
- Home quarantine.
- Psychosocial support.
- Ensure public awareness and hygiene.
- Transfer of severe cases to critical care facilities.

**Orange**
- Non-emergency surgeries interrupted.
- Pre-arranged medical consultations for cases.
- School closure in affected areas.
- Limit non-essential public gatherings.
- Ferry owners to restrict non-essential travel.
- Ensure enough food and other essentials in island.
- Home quarantine.

**Red**
- Non-emergency services at health facility halted.
- Halt all public transportation systems.
- Halt all non-essential transport.
- Close down schools in affected areas.
- Close non-essential offices.
- Advice families to stay indoors.