GOVERNMENT OF THE REPUBLIC OF THE UNION OF MYANMAR

MINISTRY OF HEALTH AND SPORTS

DEPARTMENT OF MEDICAL SERVICES

Case management of COVID-19 Disease at District/Township hospitals without an ICU

Version - **DoMS/COVID-19/clinical-district/Version 01-2020**

Date - **26th March 2020**

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Department of Medical Services (Version 01/2020)

Case Definitions for Surveillance

Suspect case

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

AND

a history of travel to or residence in a location reporting community transmission of COVID-19 disease during the 14 days prior to symptom onset.

OR

B. A patient with any acute 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. A patient with severe acute respiratory infection (fever and at least one sign/symptom of respiratory disease, e.g., cough, shortness breath; requiring hospitalization)

AND

in the absence of an alternative diagnosis that fully explains the clinical presentation

***Note: "Reporting community transmission of COVID-19 disease" should be checked in WHO updated situation report**

Probable case

A suspect case for whom testing for COVID-19 is inconclusive.

Confirmed case

A person with laboratory confirmation of COVID-19 infection, irrespective of clinical signs and symptoms.

*see *https://www.who.int/emergencies/diseases/novel-coronavirus-2019/technicalguidance/laboratory-guidance* for latest case definitions

Definition of contact

A contact is a person who experienced any one of the following exposures during the 2 days before and the 14 days after the onset of symptoms of a probable or confirmed case :

- Face-to-face contact with a probable or confirmed case within 1 meter and for more than 15 minutes;
- Direct physical contact with a probable or confirmed case;
- Direct care for a patient with probable or confirmed COVID-19 disease without using proper personal protective equipment;
  (For asymptomatic cases, the period of contact is measured as the 2 days before through the 14 days after the date on which the sample was taken which led to confirmation)

Monitoring of contacts of probable and confirmed cases :

- Contacts should be monitored for 14 days from the last unprotected contact.
- Contacts should self-limit travel and movements.
- Monitoring by public health authorities can be done through household or virtual visits or by telephone to check for symptoms.
- Any contact who becomes ill and meets the case definition becomes a suspect case and should be tested
- Any newly identified probable or confirmed cases should have their own contacts identified and monitored
- As a special consideration, samples maybe taken from close contacts of confirmed cases even if the contacts are without symptoms and not PUI.

Criteria for severe acute respiratory infection requiring hospital admission

Anyone of the following parameters:

- Respiratory rate > 30 breaths/min
- Severe respiratory distress
- SpO2 ≤ 93% on room air
- Systolic blood pressure ≤ 100 mmHg
- Altered mental status (GCS < 15)

Categorization of Patients

Mild illness

- Patients uncomplicated upper respiratory tract viral infection may have non-specific symptoms such as fever, fatigue, cough (with or without sputum production), anorexia, malaise, muscle pain, sore throat, dyspnea, nasal congestion, or headache. Rarely, patients may also present with diarrhoea, nausea, and vomiting. The elderly and immunosuppressed may present with atypical symptoms.

Pneumonia

- Adult with pneumonia but no signs of severe pneumonia and no need for supplemental oxygen.

Severe pneumonia

- Fever or suspected respiratory infection, plus one of the following: respiratory rate > 30 breaths/min; severe respiratory distress; or SpO2 ≤ 93% on room air.

Management

Step 1: Triage, Isolate those who fulfill surveillance definitions, Quick Check and Emergency treatments

Note: Remember IPC for every step

SAFETY first Infection Prevention and Control : COVID-19

In the waiting room – first point of contact,

In the waiting room- first point of contact:

- Educate all staff, health workers and hospital visitors **on respiratory hygiene and cough etiquette**
    - Cover mouth and nose when coughing or sneezing
    - Have tissues in waiting area or provide a medical mask
    - Hand hygiene after contact with respiratory secretions
    - Remind all to dispose of tissues and masks in no-touch receptacles and to wash their hands
    - Have posters in waiting areas to educate on this

Give patients with suspect COVID-19 a mask and direct to separate area:

- Separate suspects by 1-2 metres from other suspect patients in the separate area

As you start the medical triage assessment, consider your team's safety first-

If a dangerous pathogen with human-to-human transmission (COVID-19, MERS-CoV, human avian influenza, Ebola, CCHF) is occurring in your province or a travel history:

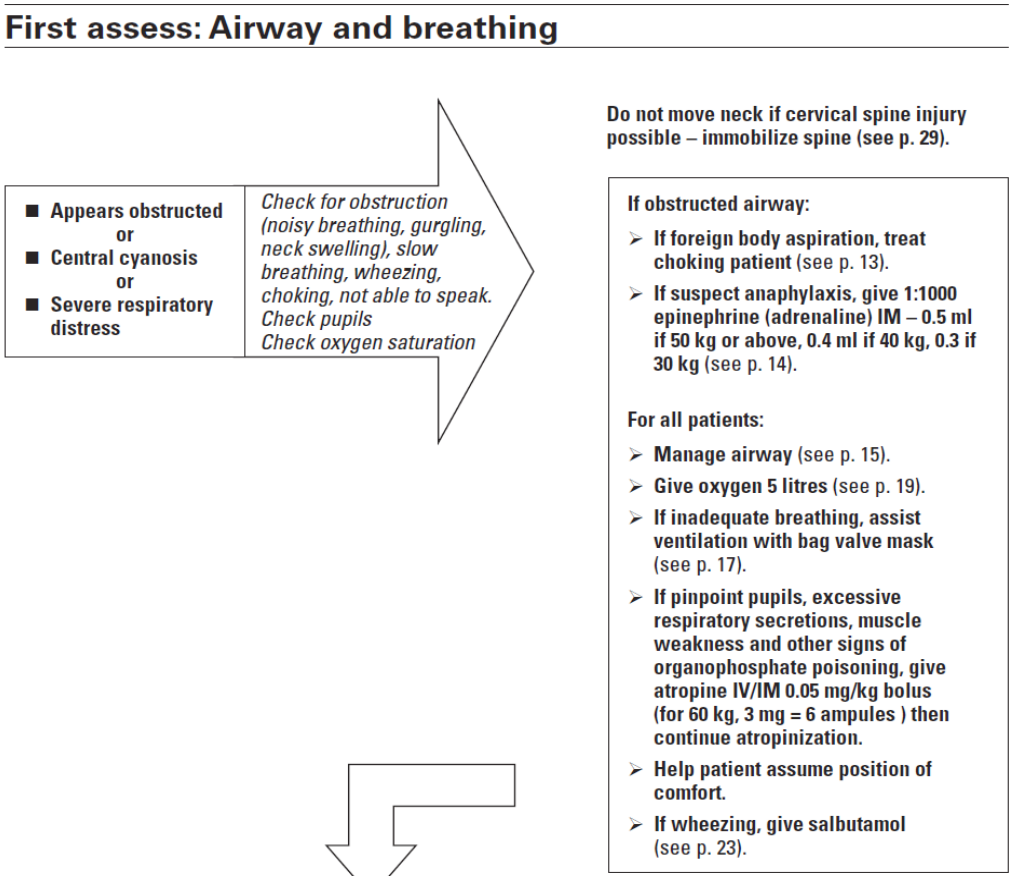
- Screen and complete only a visual assessment
- Call for help in appropriate PPE if positive screening or if cannot determine contact status.
- If screening negative, continue with assessment and management using standard precautions

Quick Check and emergency treatments

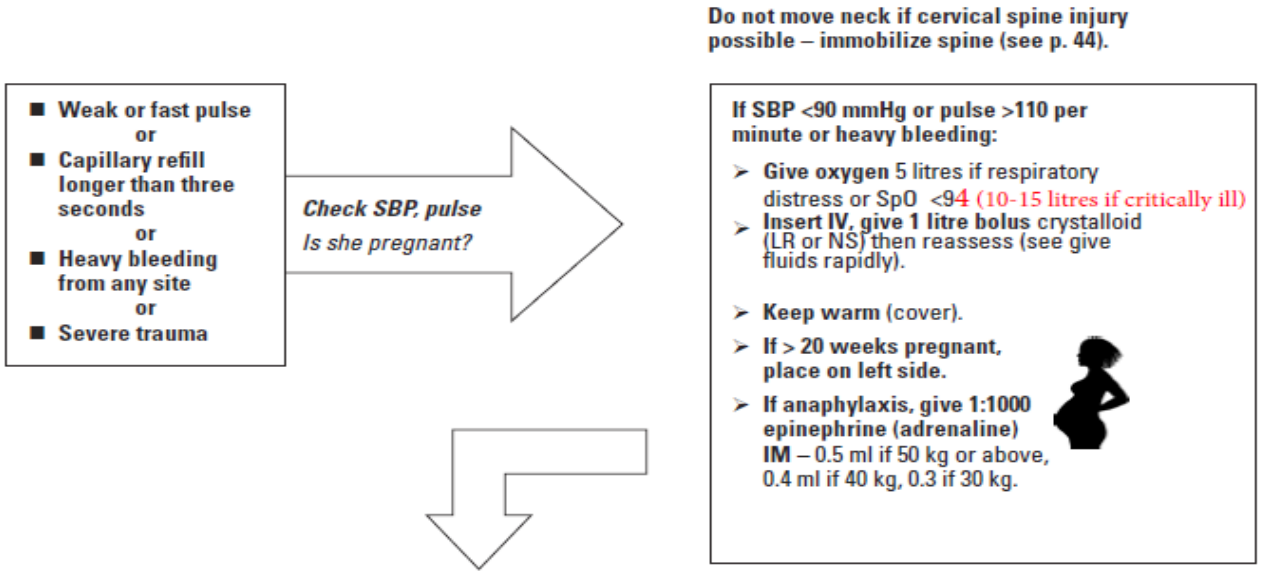
Remember ABCDEs

- **A**IRWAY
- **B**REATHING
- **C**IRCULATION
- **D**ISABILITY
- **E**XPOSE and **E**VALUATE for life threats

Quick Check and emergency treatments: Airway and Breathing



Quick Check and emergency treatments: Circulation



Give oxygen if hypoxemic- measure oxygen saturation by pulse oximeter then titrate

- Easy to use
- Detect and monitor hypoxemia (low oxygen saturation)
- Titrating oxygen using an oximeter allows efficient use of a limited resource
- Give oxygen if*
    - SpO2 <90% (haemodynamically stable patient)
    - SpO2 <94% (pts with A, B or C emergency signs)
    - SpO2 <92-95% (pregnant women)

Then titrate to exceed the threshold

Simplified to SpO2 < 94 % if ABC emergency sign or pregnant)

Step 2: Take history, focused examination; send investigations

I. History taking

Name: ---------- Age: ----------

Sex: ---------- R/N: ----------

Address: ----------

Detail of Travel History----------

Contact History----------

Complaints

Fever ……Cough …… Sorethroat……..Headache…….Muscle pain……Shortness of breath…….Diarrhoea……Reduced urine output etc……..

II. Physical Examination

Vital signs: GCS: …… Temperature……. Cyanosis……. BP: ….. ……

HR: …… SPO_2: …… RR: …….. Lungs: ……..

III. Investigations

- CP, ESR, RBS, ECG, Renal function tests, CXR (PA)
- Collection of blood cultures (if possible)– for bacteria that cause pneumonia and sepsis, ideally before antimicrobial therapy. Do not delay antimicrobial therapy to collect blood cultures.
- Collection of specimens – from the upper respiratory tract (nasopharyngeal and oropharyngeal) **AND**, where clinical suspicion remains and URT specimens are negative, collect specimens from the lower respiratory tract when readily available (expectorated sputum, endotracheal aspirate, or bronchoalveolar lavage in ventilated patient) for COVID-19 virus testing by RT-PCR and bacterial stains/cultures.
- Detection of malaria parasites – by RDT or blood film for patients with fever in malarial endemic areas.
- Detection of dengue - may also be considered in the differential diagnosis of undifferentiated febrile illness, particularly when thrombocytopenia is present.

Step 3: Treatment

I. Management of mild COVID-19

- Patients with mild disease may not require hospital interventions, but isolation is necessary to contain virus transmission.
- Isolation can be done either in hospital, if there are only sporadic cases or small clusters, or in repurposed, non-traditional settings; or at home.
- Symptomatic treatment such as antipyretics (paracetamol) for fever.
- Counsel patients about signs and symptoms of complicated disease. If they develop any of these symptoms, they should seek urgent care.

II. Management of severe COVID-19

Supplemental oxygen therapy

Give oxygen if hypoxemic- measure oxygen saturation by pulse oximeter then titrate

Give oxygen if

- **SpO2 <90%** (haemodynamically stable patient)
- **SpO2 <94%** (pts with haemodynamically unstable)
- **SpO2 <92-95%** (pregnant women)

Then titrate to exceed the threshold.

HOW TO DELIVER INCREASING OXYGEN

Place prongs inside the nostril.
Hook tubing behind ears.
Flow rates higher than 5 litres will dry mucous membranes.

- Start oxygen at 2-3 L/min
- Use nasal prongs
- Assess response

■ **If increasing respiratory distress or SpO_2 <90; <94 if [redacted] pregnant**

Secure mask firmly on face over nose and mouth.
Pull strap over head.

- Use face mask
- **Increase oxygen to 6–10 litres/minute**
- Assess response

■ **If increasing respiratory distress or SpO_2 <90; <94 if [redacted] pregnant**

Make sure bag is full to deliver highest oxygen concentration.
An empty bag is dangerous.

- Use face mask with reservoir
- Increase oxygen to 10–15 litres/minute
- Make sure bag inflates
- Call for help from district clinician
- Assess response

■ **If increasing respiratory distress or SpO_2 <90; <94 if [redacted] pregnant** *or*

■ **If not improving with BVM on high flow oxygen**

[redacted]

■ **Transfer to a hospital with available invasive mechanical ventilator possible.**

[redacted]

- Call for help from district clinician for possible tracheal intubation [redacted]
- **Start manual ventilation (bagging) with high flow oxygen** [redacted]

BVM = Bag Valve Mask

How to Titrate Oxygen up and down

- •After starting a patient on oxygen→ recheck for signs and symptoms of respiratory distress and check $SpO_{2.}$
- •Most patients will have improvement in their symptoms and SpO_2 within a few minutes.
- •For any change to a patient's oxygen treatment, directly observe the patient for 10-15 minutes to ensure that they are stable.
- •If the patient remains stable→ reassess in 15 minutes and record clinical exam and SpO_2.
- •If the patient develops severe respiratory distress or the SpO_2 is <90% (or <94% if hemodynamically unstable or pregnant)→ increase the oxygen flow.
- •Only start to decrease the flow of oxygen once you are convinced that the patient is receiving enough oxygen with the current flow and you have completed other first-line emergency treatments.
- •Once stable→ slowly wean by 1-2 LPM. Observe for 10-15 min to ensure stability and then reassess in 15 minutes.

Fluid management

- Insert IV (16 or 18 gauge) and start fluids at 1 ml/kg/hour for severly ill patients with sepsis and dehydration. Use conservative fluid management in patients with SARI when there is no evidence of shock.

Other supportive care.

- Do NOT give corticosteroids unless indicated for another reason e.g. COPD, exacerbation asthma or sepsis.

Empirical antimicrobial treatment for

- Give antimicrobials within one hour of identification of sepsis.
- Neuraminidase inhibitor when there is local circulation or other risk factors, including travel history or exposure to animal influenza viruses.
- Mild pneumonia PO Augmentin 625 mg tds + PO Azithromycin 500mg od x 5 days
- Severe pneumonia (community acquired)

IV Augmentin 1.2 g 8h (ATD) for 7 days + IV Azithromycin 500 mg OD for 7 days

Followed by extend or change other antibiotics according to clinical and lab results.

- Severe pneumonia (hospital acquired)

IV Cefepime 1g 8h (ATD) + IV Meropenem 1g in N/S 100 ml (ATD) 8h, if needed add IV Moxifloxacin 400mg OD (ATD) for 7-14 days

(Attending physician should de-escalate empirical therapy on the basis of microbiology results and clinical judgment)

Specific treatment for COVID-19 Disease

This option is needed to consult with central level clinical management committee before starting it.

For patients with confirmed **COVID-19 Disease (mild, moderate and severe disease)**, sstart hydroxychloroquine (HCQ) if there are no contraindications.

- 400 mg BD for 1 day f/b
- 200 mg BID for 4 days

Contra-indications to HCQ

- QTc > 500 msec
- Drug interaction
- Myasthenia gravis
- Porphyria
- Retinal pathology
- Epilepsy

Note: Pregnancy is not a contraindication as such. Perform basic biochemistry daily and ECG daily if initial QTc > 450 msec. Avoid quinolones if possible, or monitor closely the QT if these antibiotics are needed.

- For patients with confirmed **COVID-19 Critical disease**

(≥ 1 of the following: Acute Respiratory Distress Syndrome Sepsis Altered consciousness Multi-organ failure), start hydroxychloroquine, crushed in nasogastric tube at the same dosage and monitor as above.

Important side effects of HCQ

- Prolonged QT interval
- Haemolysis with G6PD deficiency
- Retinopathy with retinal pigmentation changes

Alternative therapy

If HCQ is not available, consider

- Chloroquine base 600mg (4 tabs) stat,
- 300mg (2 tabs) after12h , followed by
- 300mg (2 tabs) BD for 4 days

***Attending physician decision should be taken into account for use of HCQ.*

***Caution is required in cardiac, liver and renal failure when using HCQ.*

********Counseling should be done before administering Hydroxychloroquine or Chloroquine to patients and consent should be taken.*

***Patients should be monitored for side effects and to give appropriate prompt action if present.*

Monitoring

- Signs of clinical deterioration, such as rapidly progressive respiratory failure and sepsis and respond immediately with supportive care interventions.

Referral Criteria of the patients

After initial resuscitation measures, if the patient still has one of the following criterias:

- Respiratory rate > 30 breaths/min
- Severe respiratory distress
- SpO2 ≤ 93% on room air

Transfer checklist

- ❑ Airway
- ❑ Breathing- adequate SpO2
- ❑ Circulation, monitoring and IV
- ❑ Family informed
- ❑ Final considerations
    - ❑ Ask for notes, X-rays, other results
    - ❑ **Bed confirmed at receiving ICU**
    - ❑ Continuity of care assured? Communication equipment
    - ❑ Drugs, Documentation, including patient history
    - ❑ Everything secure? Enough drugs? **Enough oxygen?** Enough fuel? Enough IV fluids?
- ❑ Health worker accompanying patient- prepared? Remember IPC/PPE!!

Discharge Criteria

For PUI case came out COVID-19 negative result from Swab

1) Move from isolation ward to cohort room (so call room to meet others plan for DC)
2) Need to explore DC parade and counseling in 2 days stay in cohort room.
3) Afebrile and resolving respiratory symptoms for at least 48 hours, and, stable on co-morbid conditions for at least 48 hours (if co-morbid condition is not stable, refer to appropriate specialist for consultation)
4) Follow-up on 2 weeks after discharge (if anything happens, return to hospital anytime)

Discharge Criteria for discharge of confirmed COVID-19

1) Afebrile for at least 48 hours
2) Resolving respiratory symptom (cough, dyspnea)
3) Improving radiological signs
4) Improved well-being
5) At least 2 consecutive sets of nasopharyngeal or throat swabs collected ≥ 24 hours apart from a patient with COVID-19.
6) Home or facility quarantine for 14 days (after asymptomatic condition) after discharge

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