



# Training on nCOVID for AYUSH Medical Officers

## Topic - Clinical Case Management

# Learning Objectives

1. Learn the key steps in management
2. Learn the complications and important points

# Clinical Spectrum

## **Uncomplicated Illness**

Fever, cough, sore throat, nasal congestion, malaise, headache, muscle pain or malaise

The elderly and immunosuppressed may present with atypical symptoms. These patients do not have any signs of dehydration, sepsis or shortness of breath

## **Mild pneumonia**

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): <2 months,  $\geq 60$ ; 2-11 months,  $\geq 50$ ; 1-5 years,  $\geq 40$  and no signs of severe pneumonia

# Clinical Spectrum

## Severe Pneumonia

**Adolescent or adult:** fever or suspected respiratory infection, **plus** one of respiratory rate  $>30$  breaths/min, severe respiratory distress, **or** SpO<sub>2</sub>  $<90\%$  on room air

With cough or difficulty in breathing, plus at least one of the following:  
central cyanosis or SpO<sub>2</sub>  $<90\%$ ; 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. Other signs of pneumonia may be present: chest in-drawing, fast breathing (inbreaths/min):  $<2$  months,  $\geq 60$ ; 2-11 months,  $\geq 50$ ; 1-5 years,  $\geq 40$ . The diagnosis is clinical; chest imaging can exclude complications

# Clinical Spectrum

## 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 nodules

**Origin of oedema:** respiratory failure not fully explained by cardiac failure or fluid overload. Need objective assessment (e.g. echo) to exclude hydrostatic cause of oedema if no risk factor present.

Mild ARDS:  $200 \text{ mmHg} < \text{PaO}_2/\text{FiO}_2 \leq 300 \text{ mmHg}$  (with PEEP or CPAP  $\geq 5 \text{ cmH}_2\text{O}$ , or non-ventilated)

Moderate ARDS:  $100 \text{ mmHg} < \text{PaO}_2/\text{FiO}_2 \leq 200 \text{ mmHg}$  with PEEP  $\geq 5 \text{ cmH}_2\text{O}$ , or non-ventilated)

Severe ARDS:  $\text{PaO}_2/\text{FiO}_2 \leq 100 \text{ mmHg}$  with PEEP  $\geq 5 \text{ cmH}_2\text{O}$ , or non-ventilated)

• When  $\text{PaO}_2$  is not available,  $\text{SpO}_2/\text{FiO}_2 \leq 315$  suggests ARDS (including in non-ventilated patients)

# Management

## Early Supportive Therapy

Initiate oxygen therapy at 5 L/min and titrate flow rates to reach target SpO<sub>2</sub> ≥ 90% in non-pregnant adults and SpO<sub>2</sub> ≥ 92-95 % in pregnant patients

Use conservative fluid management in patients with SARI when there is no evidence of shock

Patients with SARI should be treated cautiously with intravenous fluids, because aggressive fluid resuscitation may worsen oxygenation, especially in settings where there is limited availability of mechanical ventilation

Give empiric antimicrobials to treat all likely pathogens causing SARI

Give antimicrobials within one hour of initial patient assessment for patients with sepsis: Although the patient may be suspected to have nCoV, administer appropriate empiric antimicrobials within ONE hour of identification of sepsis

Empiric antibiotic treatment should be based on the clinical diagnosis (community-acquired pneumonia, health care-associated pneumonia [if infection was acquired in healthcare setting], or sepsis), local epidemiology and susceptibility data

Empiric therapy includes a neuraminidase inhibitor for treatment of influenza when there is local circulation or other risk factors

Empiric therapy should be de-escalated on the basis of microbiology results and clinical judgment

# Management

## Early Supportive Therapy

Closely monitor patients with SARI for signs of clinical deterioration, such as rapidly progressive respiratory failure and sepsis, and apply supportive care interventions immediately

Application of timely, effective, and safe supportive therapies is the cornerstone of therapy for patients that develop severe manifestations of nCoV

Closely monitor patients with SARI for signs of clinical deterioration, such as rapidly progressive respiratory failure and sepsis, and apply supportive care interventions immediately

Application of timely, effective, and safe supportive therapies is the cornerstone of therapy for patients that develop severe manifestations of nCoV

Understand the patient's co-morbid condition(s) to tailor the management of critical illness and appreciate the prognosis

During intensive care management of SARI, determine which chronic therapies should be continued and which therapies should be stopped temporarily

Communicate early with patient and family

Communicate proactively with patients and families and provide support and prognostic information

Understand the patient's values and preferences regarding life-sustaining interventions