

Management of Acute Respiratory Symptoms during COVID-19 Pandemic

Due to the outbreak of COVID-19, all patients presenting acute respiratory symptoms especially respiratory failure, pneumonia and fever should be considered to be infected with COVID-19 until proven otherwise.

This includes patients with known asthma and COPD. To prevent spread of COVID -19 the following guidelines will be followed:

Nebulized medications should be **avoided** in all patients at this time due to **risk to others**. A Cochrane review found that metered-dose inhalers **with spacers are at least as effective, and likely more effective, than nebulized medications**. **If Nebulized medications are to be used, they must be used in negative pressure patient rooms only** and all providers must be in full PPE for airborne precautions. Limit or no visitors in the room. Respiratory therapist can convert any nebulize order to above MDI recommendations unless otherwise directed by attending physician. Call attending physician early for severe distress.

First line for ASTHMA ONLY and COPD ONLY

{note **NOT FOR ARDS GENERAL MANAGEMENT**}:

Inhaled Beta Agonist:

Albuterol MDI (90 mcg/puff) with spacer:

Adult:

8 puffs every 20min up to 4 hours then every 1-4 hr

Pediatric:

8 puffs every 20 min for 3 doses, then as needed every 1-4 hrs

Anticholinergic Agent:

Ipratropium MDI (18mcg/puff) with spacer:

Adult:

8 puffs every 20min, as needed for 3 hours

Pediatric: (severe asthmatic cases only)

4-8 puffs every 20 min as needed, up to 3 hours

Or Combination Inhaled MDI:

Albuterol with Ipratropium (90 mcg albuterol with 18 mcg ipratropium per puff)

Adult:

8 puffs every 20min, as needed for 3 hours

Pediatric: (severe asthmatic cases only)

4-8 puffs every 20 min as needed, up to 3 hours

Other Medications for bronchoconstriction therapy:

Magnesium sulfate:

Adult:

2 grams IV over 20 min

Pediatric:

50 mg/kg up to 2 grams IV over 20 min

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Epinephrine (1 mg/mL)

Adult:

0.3-0.5 mg IM every 20 min for 3 doses

Pediatric:

0.01 mg/kg IM up to 0.3-0.5 mg every 20 min for 3 doses

Terbutaline (1mg/mL):

Adult:

0.25 mg subcutaneously every 20 min for 3 doses

Pediatric:

0.01 mg/kg subcutaneously every 20 min for 3 doses, then every 2-6 hours as needed

10mcg/kg intravenously over 10 minutes, followed by an infusion of 0.4mcg/kg/min

Steroids:

Neither the CDC nor the WHO has recommended steroid administration for viral pneumonia.

In general, steroid therapy does not appear to add any clinical outcome benefits in the treatment of COVID-19 infection. As well, steroid therapy may slow down clearance of the virus. The decision to use steroids in a patient during the COVID-19 outbreak should be based on patient individual presentation and best clinical judgement, if there is another indication for steroids such as COPD exacerbation. Generally, steroids should be avoided unless they are indicated for another reason such as exacerbation of asthma or COPD,

Oxygen Therapy:

- Give supplemental oxygen therapy immediately to patients with severe acute respiratory infection and respiratory distress, hypoxemia or shock and target saturations > 88% if intubated.
- High-flow nasal oxygen (HFNO) and Non-invasive ventilation (NIV) should only be used in selected patients.
- In patients suspected of CoV19 infection, due to uncertainty around the potential for aerosolization, HFO and NIV should be used with airborne precautions until COVID-19 infection has been ruled out.
- Patients treated with either HFNO or NIV should be closely monitored for clinical deterioration.
- There is strong evidence that the use of NIV in the treatment of COVID-19 pneumonia is associated with a worse outcome. On this basis, WHO recommends, where possible, to avoid using NIV and adopt instead standards that provide for early intubation.

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References:

1. Clinical management of severe acute respiratory infection (SARI) when COVID-19 disease is suspected: Interim guidance V 1.2.
[https://www.who.int/publications-detail/clinical-management-of-severe-acute-respiratory-infection-when-novel-coronavirus-\(ncov\)-infection-is-suspected](https://www.who.int/publications-detail/clinical-management-of-severe-acute-respiratory-infection-when-novel-coronavirus-(ncov)-infection-is-suspected)
2. Interim Clinical Guidance for Management of Patients with Confirmed Coronavirus Disease (COVID-19)
<https://www.cdc.gov/coronavirus/2019-ncov/infection-control/control-recommendations.html#minimize>
3. Italy (2020-03-13) Guidelines for the treatment of people with COVID-19 disease Edition 2.0, 13 March 2020
<https://covid.idwiki.org/books/protocols/page/italy-%282020-03-13%29>