

COVID Treatments

DESCRIPTION

This guideline is to provide a most up to date evidence based treatments for the patient with suspected COVID-19. 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:

- 1) Nebulized medications should be avoided in all patients at this time due to risk to others.
- 2) A Cochrane review found that metered-dose inhalers with spacers are at least as effective, and likely more effective, than nebulized medications.
- 3) If Nebulized medications or meter dose inhalers are to be used, they must be used outside the ambulance and all providers must be in full PPE for airborne precautions.
- 4) Confirm if patient has a MOST, DNR, or DNI directives.
- 5) No riders in the ambulance.

MEDICATIONS IN THE COVID PATIENT

- 1) IV Fluids (lactated ringers or normal saline)
 - a) Limit IV fluids to what are absolutely necessary for volume resuscitation. Vasopressors should be considered early, as COVID-19 patient have been found to typically not be significantly volume depleted. **Additional fluids will increase risk of acute respiratory distress syndrome.**
- 2) Terbutaline (1 mg/ml SQ or 2.5 mg PO)
 - a) **Adult:**
 - i) 0.25 mg subcutaneously, PRN every 20 minutes for 3 doses.
 - ii) 2.5 mg PO, may repeat x 1.
 - b) **Pediatric:**
 - i) 0.01 mg/kg subcutaneously (**MAX 0.25** per dose), PRN every 20 minutes for 3 doses.
 - ii) 0.05 mg/kg PO (**MAX 2.5** mg per dose), may repeat x 1.
- 3) Epinephrine 1:1000
 - a) **Adult:** 0.3 (0.3 ml) IM every 20 minutes for 3 doses.
 - b) **Pediatric:** < 30 kg 0.15 (0.15 ml) mg IM, up to 0.3 mg, PRN every 20 minutes for total of 3 doses.
> 30 kg 0.3 (0.3 ml) mg IM, PRN every 20 minutes for total of 3 doses.
- 4) Albuterol PO Immediate Release
 - a) **Adult:** 2 mg PO immediate release, may repeat x 1.
 - b) **Pediatric:** 0.1 mg/kg PO immediate release, may repeat x 1.
- 5) Magnesium Sulfate
 - a) **Adult:** 2 grams IV over 20 minutes.
 - b) **Pediatric:** 50 mg/kg up to 2 grams IV over 20 minutes.
- 6) Oxygen Therapy
 - a) Give supplemental oxygen therapy immediately to patients with severe acute respiratory infection and respiratory distress, hypoxemia or shock and target saturations > 88%.
 - b) In patients suspected of CoV19 infection, due to uncertainty around the potential for aerosolization, CPAP and BVM and aerosol generating procedures should be used with full personal precautions until COVID-19 infection has been ruled out.
 - c) There is strong evidence that the use of CPAP in the treatment of COVID-19 pneumonia is associated with a worse outcome. On this basis, WHO recommends, where possible, to avoid using CPAP and adopt instead perform early iGel intubation. The paramedic can consider intubating through the iGel if need.
- 7) Steroids
 - a) Neither the CDC nor the WHO has recommended steroid administration for viral pneumonia.
 - b) In general, steroid therapy does not appear to add any clinical outcome benefits in the treatment of COVID-19

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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.

SELF-PRONING OF PATIENTS

- 1) Indications
 - a) Moderate hypoxemia: SpO₂ < 95% on supplemental oxygen via nasal cannula, or < 90% with exertion.
 - b) Tachypnea or mild-moderate dyspnea with supplemental oxygen.
 - c) Rescue therapy in the COVID-19 patient who does not require intubation at this time.
 - d) Patient must be awake, alert, and able to self-pronate.
- 2) Contraindications
 - a) Delirium, confusion, or inability to follow instructions.
 - b) Altered mental status.
 - c) Inability to independently change position.
 - d) Nausea not controlled with antiemetics, or any vomiting.
 - e) Hemodynamic abnormalities, including but not limited to heart rate > 120 bpm or MAP < 65 mmHg.
 - f) Need for intubation, or increasing oxygen needs.
- 3) Technique
 - a) Direct patient to turn onto prone position with oxygen in place.
 - b) Head shield may be used in this position as well.
 - c) Patient requires constant airway, respiratory function, and neurologic evaluations.
 - d) Sedating medications should NOT be administered to a patient in prone positioning.
 - e) Assure patient is secured to the stretcher, but assure no impedance of ventilatory function by straps.
 - c) Consider EtCO₂ monitoring with required SpO₂ and cardiac monitoring in the prone position.

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>
- 4) Consensus statement: Safe Airway Society principles of airway management and tracheal intubation specific to the COVID-19 adult patient group <https://www.mja.com.au/journal/2020/212/10/consensus-statement-safe-airway-society-principles-airway-management-and>