COVID-19 Treatment Approach for MFR

July 16, 2021 V-2

Record of Revisions

#	Date	Amended by:	Comments
V-1	April 28, 2020	AHS EMS Emergency Management	Initial Version
V-2	July 16, 2021	Alberta MFR Program	Aligning with EMS updates

This document provides Medical First Responders (MFR) with clinical guidance for the management of possible and confirmed COVID-19 patients. This is based on available science and clinical experience, and will be updated as information about this disease process emerges.

Point of Care Risk Stratification

Front line responders should continue using the Point of Care Risk Assessment (PCRA) to guide use of Personal Protective Equipment (PPE). Adherence to the treatment guidelines as outlined below should continue for any patient that screens positive for COVID-19 symptoms and/or exposure.

MFR Medical Control Protocols

- This Treatment Approach applies to patients that are known or suspected to have COVID-19 or where a point of care risk assessment cannot be fully completed (i.e. altered level of consciousness or cardiac arrest)
- This document has been adapted from the 'AHS EMS COVID-19 Treatment Approach for EMS Practitioners' to align with EMS practices ensure relevance for Medical First Responders
- Advanced Care Paramedics need to refer to the latest AHS EMS Medical Control Protocols (MCPs)
- Some respiratory MCPs have been modified to accommodate the COVID-19 pandemic, for example, nebulized medication has been strongly de-emphasized in the Adult and Pediatric Bronchospasm MCPs

Important PPE Considerations

MFR personnel should apply Contact and Droplet Precautions with an N95 respirator while attending patients suspected of having Influenza-Like-Illness (ILI) / COVID-19.

Appropriate PPE must be worn for any patient interaction involving ILI / possible COVID-19. Refer to the 'COVID-19 EMS Guidance for Active Recovery' for up-to-date PPE recommendations. The most important aspect of caring for your patients is the proper donning and doffing of your PPE. The highest risk of transmission is linked to misuse of PPE, ineffective seal of an N95 respirator and inappropriate doffing of your PPE. You may want to have a partner watch you don and doff, in order to ensure you are following proper procedure. Donning and doffing posters and training videos are available on the COVID-19 MFR Awareness webpage.

Aerosol Generating Medical Procedures

The following procedures or interventions, referred to as **Aerosol Generating Medical Procedures (AGMP)**, may increase the risk of viral transmission and should only be performed when donning full Contact and Droplet PPE with an N95 respirator.

- Manual BVM ventilation
- Advanced airway placement (SGA / ETT)
- Nebulized therapy / aerosolized medication administration
- Intranasal medication administration may increase risk
- Entonox administration may increase risk
- Chest compressions / CPR can be performed safely without N95 respirator protection if that patient's mouth and nose are covered (see cardiac arrest section below)

If available, use a viral filter (hygrobac / HMEF) between the self-inflating bag and airway (mask, SGA or ETT) to minimize the risk of virus spread.

Supplemental Oxygen Therapy

The risk of respiratory failure requiring critical care support in patients infected with COVID-19 is significant, however many patients may be initially supported with simple oxygenation strategies.

- Practitioners should use the minimum flow of O2 possible to achieve SPO2 > 90%.
- Recommended SPO2 targets for pregnant patients are higher
- If your patient is requiring more than 5 L/min of supplemental oxygen monitor carefully for patient deterioration.
- The patient should wear a procedure mask at all times, if they will tolerate it. The procedure mask should be molded over the bridge of the patient's nose. The procedure mask can be placed OVER a nasal cannula and OVER an NRB to minimize any potential risk of transmission caused by coughing or sneezing.
- NRB should NOT be placed over a procedure mask. The NRB should be placed against the patient's skin, and well-formed over the bridge of the nose, the procedure mask then placed over the NRB and also molded to bridge of nose.
- Patients should be in seated / high-fowler's position
- Escalation of oxygen therapy
    - NC at 1 to 10 L/min. Titrate oxygen flow by nasal cannula, covered by procedure mask, up to 10 L / min to achieve SPO2 greater than 90%. Higher flows may cause the patient to reach up and disrupt the nasal cannula / procedure mask set up. Titrate flow for patient's comfort and desired SPO2.
    - NRB at 15 L/min and NC @ 6-10 L/min. Combining higher flow rates through both nasal cannula and NRB simultaneously can deliver close to 100% FiO2, which is not possible through either device alone.
- If patient remains hypoxemic and in distress with nasal cannula alone, set nasal cannula flow to a comfortable level between 6-10 L/min, remove the procedure mask, place an NRB mask ON TOP of the nasal cannula and replace the procedure mask OVER BOTH the NRB mask and nasal cannula.

- Start NRB at 15 L/min. If SPO2 greater than 90% is achieved then consider titrating down FiO2 so minimum flows are used to achieve desired saturations. Flow through NRB must be at least 6L/min to prevent re-breathing.

Airway and Ventilation

Current evidence would suggest that Supraglottic Airway (SGA) placement reduces aerosolization better than BVM. Placement of SGA is a Primary/Advanced Care Paramedic procedure. Always wear appropriate PPE for any airway management, considering the patient's presentation and anticipated difficulties in managing the airway, including basic suctioning. MFRs should not use a pocket mask/mouth-to-mask device for rescue breathing, even if it is equipped with a one-way valve.

Bag-Valve-Mask (BVM) Ventilation

- Ensure a tight mask seal using 2-person technique, when possible, with the provider at the head securing the mask with both hands using the C-E or V-E technique (see photo and video link below)
- When assisting ventilations or ventilating, use only enough force to result in visible chest rise
- Minimize disruption of mask seal so that aerosolized particles are not released
- Video on BVM ventilation technique: https://vimeo.com/402164953

Supraglottic Airway (SGA) Placement / Ventilation

- No matter their experience level, providers will be anxious about airway management for COVID-19 patients as these patients are critically ill. Slow down, discuss the plan with your partners and be purposeful in your movements.
- The most experienced practitioner should perform the procedure
- Ensure your face is as far away from the patient's as possible
- Have your ventilatory equipment, including filter if available, pre-assembled
- Once the BVM is connected to the airway, disconnecting it should be avoided to minimize risk of exposure
- Pre-oxygenation will be a critically-important step for patient safety in advanced airway placement
- Pre-oxygenation should be performed with a nasal cannula and NRB. If manual BVM pre-oxyenation is necessary, use a well-sealed bag mask device
- If the patient is in cardiac arrest, then STOP chest compressions when placing an airway
- Blood pressure and other vitals should be reassessed after tube placement
- The tube should be firmly secured using a commercial securing device

Altered LOC / Cardiac Arrest

- When responding to patients in cardiac arrest and those with an altered level of consciousness, assume these patients are COVID-19+ and don contact and droplet PPE with a N95 respirator prior to initiating patient care
- Priorities for patients in cardiac arrest otherwise remain unchanged; high quality compressions with minimal interruptions and early defibrillation for shockable rhythms
- EMS will manage cardiac arrest on-scene until return of spontaneous circulation is achieved or termination of resuscitation. The number of providers involved in resuscitation should be limited to essential personnel.

Other Considerations

- IV fluids should be limited unless required for the management of hypotension or shock
- Entonox and intranasal administration of medications (such as naloxone) is still reasonable if providing benefit for the patient. Ensure the proper PPE is worn for these procedures.
- Be slow and purposeful, ensure you protect yourself first, before treating any suspected COVID-19 patient