

## **Appendix 4.**

### LifeFlight of Maine

#### **Non-invasive oxygen therapies in the suspected or confirmed Covid 19 patient.**

There remains significant controversy around the use of Non-invasive Positive Pressure Ventilation or for patients using High Flow Nasal Oxygen (HFNO) in the out-of-hospital environment. Some air medical services have opted to transfer any patient on NIPPV / HFNC, while others have determined that it is not safe to move any patients requiring these therapies. The data on this population of patients is changing almost on a daily basis. We expect to have additional changes in these recommendations as the experience in the management of these patients evolve.

#### **Supplemental oxygen support:**

Please refer to Appendix 1. The treatment of patients with respiratory Distress with Covid 19.

In an in-patient setting (augmented in areas with negative pressure), hospital staff may opt to use NIPPV or HFNO if the patient who require higher levels of supplemental oxygen (liter flow) that can be delivered with standard supplemental oxygen. However, in the transport environment, concerns around staff safety remain high.

In these cases, discussions must ensue between the sending / receiving clinicians, the LifeFlight of Maine transport team and, if needed, a LifeFlight of Maine medical director.

- There is limited data on the dispersal of aerosolized particles using these therapies. A variety of organizations have recommended the use of HFNO for patients with Covid 19 due to the fact that data has demonstrated that there is limited dispersal of droplets using this therapy.
- It is unknown whether there is transmission in ambulances, helicopters or fixed wing arenas and thus alternative solutions have been sought.

#### **Current recommendations on the use of NIPPV or HFNO in the out-of-hospital environment**

- In any suspected Covid 19 patient, ensure that ALL crew are must be donned in appropriate PPE as outlined in the Standard Operational Protocol to include goggles, facemask (N-95 or greater), appropriate gowns, and gloves.
- MEDCOMM staff will notify the crew as to the mode of oxygen supplementation that the patient requires and if there is concern from crew, the AOC and medical directors will be notified to consider altering the therapy in the interest of crew safety.
- If the patient is noted to have respiratory distress and hypoxemia requiring the above therapies, consider alternatives to include:
  - A trial on other less aerosolizing modes of oxygen delivery to include as noted in Appendix 1. :
    - Non-rebreather mask (with a surgical mask on top)
    - Nasal cannula (with a surgical mask on top)

- Oxymizer mustache (with a surgical mask on top)
- If the patient is unable to tolerate lower liter flows or lower concentrations of FiO<sub>2</sub>, consider the Sea-Long Helmet for isolated non-invasive ventilation.
  - Refer to the Appendix 5. Sea Long Non-Invasive Helmet for patient transport procedure.
- Lastly, if the patient has continued respiratory distress and associated hypoxemia with oxygen saturations of less than 90%, proceed to RSI intubation as outlined in Appendix 2. LFOM SRP RSI Checklist – Updated.

### References:

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3. Theodore John Iwashyna, Andre Boehman, Jesse Capelcelatro, Amy M Cohn, James M Cooke, Deena Kelly Costa, Richard M Eakin, Hallie C Prescott, Margaret S Woolridge. Variation in Aerosol Production Across Oxygen Delivery Devices in Spontaneously Breathing Human Subjects. MedRxiv 2020.04.15.20066688; doi.org/10.1101/2020.04.15.20066688
4. Demoule A, Vieillard Baron A, Darmon M, Beurton A, Géri G, Voiriot G, Dupont T, Zafrani L, Girodias L, Labbé V, Dres M, Fartoukh M, Azoulay E. High-Flow Nasal Cannula in Critically Ill Patients with Severe COVID-19. *Am J Respir Crit Care Med*. 2020 Oct 1;202(7):1039-1042. doi: 10.1164/rccm.202005-2007LE. PMID: 32758000; PMCID: PMC7528777.
5. AMC Physician Board. Air Method Guidelines for the Care of Patients With Suspected or Confirmed COVID-19. American College of Emergency Physicians Covid 19 Field Guide. <https://www.acep.org/corona/covid-19-field-guide/ems/air-method-guidelines-for-the-care-of-patients-with-suspected-or-confirmed-covid-19/>