

APPROACH TO CRITICALLY ILL COVID PATIENT

Recent simulation sessions have demonstrated wide practice variation amongst our ED physicians. While practice variation is inevitable and every patient encounter is different, significant variance in practice can lead to confusion among team members and may lead to poor patient outcomes and strained team dynamics. This document is as a point form guideline to help facilitate cohesive management of the critically ill COVID patient.

PRE- ARRIVAL PREBRIEFING

- Critical to successful management of patient
- Assemble appropriate room/personnel.
- Prebrief entire team while donning PPE and getting name tags.
- Determine patient's past medical history, medications and goals of care.
- Prepare airway medications and equipment. Only bring necessary items in the room and leave the rest outside.
- Prepare medications required for medical management of patient.
- Pre-oxygenation, intubation, airway exit and Emergency airway plans discussed prior to entering room if possible.
- Determine how you plan to communicate between isolation and outside rooms.

CARDIAC ARREST

- Cuffed ETT prior to CPR if possible.
- Supraglottic device:
 - If difficult airway, then leave in place.
 - If good seal and not immediately necessary to replace, then leave it.
 - If poor seal, change to ETT when possible.
- LUCAS device for CPR at FMC and PLC.(minimizes staff during AGMP)
 - (<https://youtu.be/bIE-sj45DIY>)
- AHA COVID in arrested patient document:
 - <https://www.ahajournals.org/doi/pdf/10.1161/CIRCULATIONAHA.120.047463>

- CPR with EMS
 - Continue CPR during transit from the ambulance to stretcher space
 - If patient is intubated, bagging should continue during transit.
 - If airway is unsecure, CPR can continue but hold ventilation and cover the face with mask/towel or well-sealed BVM.
 - If supraglottic device is in place, then it is reasonable to cover the patient's face while bagging or CPR is occurring. It is unknown how aerosolizing these airways are so precautions can be taken before ETT is placed (see airway above).
 - If supraglottic device is in place, use continuous CPR rather than 30:2

HEMODYNAMIC INSTABILITY

- Vasopressors as per usual practice.
- Judicious fluids unless needed for hemodynamic stability/dehydration.

RESPIRATORY THERAPY

- O2 - goal of sats 92-96%
- Step wise approach to preoxygenation includes nasal prongs up to 5 L/min, then adding NRB at 15 L/min, then well sealed 2 hand technique BVM.
- No humidified oxygen.
- Pt to wear procedure mask over nasal prongs or NRB.
- HOB at 30-45 degrees
- Consider bagging if critical sats (AMP suggests considering at sats <70%)

LABS

- CBC, VBG, CRP, electrolytes, blood cultures, COVID swab
- Avoid unnecessary routine tests.
- Ultrasound and CXR only if necessary for immediate management.

MEDICATIONS

- Recommendations for antimicrobial therapy for severe patients
 - Ceftriaxone + azithromycin or doxycycline

<https://www.albertahealthservices.ca/assets/info/ppih/if-ppih-covid-19-recommendations.pdf>

- Spectrum app - <https://apps.apple.com/ca/app/spectrum-id/id921339941>

ROLE OF TEAM 2nd PHYSICIAN (MD2)

- Obtain Netcare information for past medical history and medications
- Confirm goals of care with family or Netcare
- Assist with medical management – assist with cognitive offload of MD1
- Assist with medication orders, doses and treatment priorities
- Prepare to swap out MD1 if fatigued or overwhelmed.
- Liaison with ICU or anaesthesia
- Assist with difficult airway

INTUBATION OF COVID-19 PATIENT

Calgary ED COVID Update webinar-Bryan Weber Airway management.- start time at 27: 56

<https://www.youtube.com/watch?v=bK6zwYkKc4Y&feature=youtu.be>

VIDEO ON COVID INTUBATION IN CALGARY

<https://www.youtube.com/watch?v=JgKOK4gznO0&feature=youtube>

1. Preoxygenation plan

- Safe Oxygenation Delivery
 - [https://cumming.ucalgary.ca/sites/default/files/teams/127/COVID-19/SAFE%20Oxygen%20Delivery%20for%20COVID%20\(1\).pdf](https://cumming.ucalgary.ca/sites/default/files/teams/127/COVID-19/SAFE%20Oxygen%20Delivery%20for%20COVID%20(1).pdf)
- HOB at 30-45 deg
- Step wise approach to preoxygenation includes nasal prongs up to 5 L/min, then adding NRB at 15 L/min, then well sealed 2 hand technique BVM.
- BVM 2 hand technique to minimize leak
- Consider bagging if critical sats (AMP suggests sats <70%)
- Maximize pre-oxygenation time (may not be able to get sats into 90's) stability permitting
- Ensure equipment prepared - HFM filter, inline suction

2. Airway Management Pause

- <https://cumming.ucalgary.ca/sites/default/files/teams/127/COVID-19/AMPv10.2%20ILI-COVIDv5.1%20AMBPCv5%20ALGv5.pdf>
- Assess for anatomical and physiologic airway difficulties
- ANTICIPATED difficult airway – call ICU/anaesthesia prior to attempt
- Example of airway approach: (Choose personal option)
 - Plan A – Glidescope with hyperangulated blade
 - Call for help (anesthesia) after 1st attempt fails
 - Consider bagging with well-sealed BVM if sats < 70% (as per AMP)
 - Plan B - Glidescope with mac blade and bougie
 - Exit – Supraglottic device (Fastrach or igel)
 - Emergency- Front of neck access (FONA) for “can’t intubate, can’t ventilate” situation.

3. Medications

- Ketamine 1.5mg/kg (10.25 -0.5mg/kg if hemodynamic instability)
- Rocuronium 1.5mg/kg

4. Pressor available

- Shock index(HR/systolic BP) >1 -give vasopressor prior to intubation.

5. Post intubation sedation

- Ketamine or propofol to prevent awake paralysis post rocuronium