

2020 March 29 CAS COVID-19 Airway Management Webinar

- coordinating resources with ICU, ER and other frontline clinicians
- <https://icmanaesthesiacovid-19.org/> (UK ICU / Anesthesia COVID19 resource hub)
- Case series of HCW performing intubation in COVID19 cases, no case of infection
- Cohort study infectious risk: Odd Ratio BMV 2.8, Intubation 6.6, Cricothyroidotomy 4.2, LMA ?
- Double-handed technique (VE grip) BMV --> better seal
- 2nd generation supraglottic device recommended
- Goal to optimize first pass success
- Videolaryngoscope: McIntosh 30 degree blade vs classic videolaryngoscopy blade
- Bougie assisted CICO rescue with cricothyroidotomy (scalpel, bougie, ETT#6)
- No clear consensus of when to intubate; but early rather than waiting till it's crashing
- Unified trigger for intubation across the institution
- Where to intubate: +ve vs -ve pressure rooms, ideally -ve pressure room but scarce availability, should be at least where proper preparation e.g. donning can be done
- Preoxygenation: if the patient is already on HFNC, CPAP, NIPPV, no need to remove them as long as proper PPE is donned; European experience has moved away from thinking HFNC, NIPPV as absolutely contraindicated to preserve ICU resources; humidified HFNC might be better (bigger droplets fall closer to

patients); don't start HFNC for preoxygenation before intubation, instead low flow 5l/min or judicious BMV if needed

- Importance of HME filter
- High dose 1.2-1.5mg/kg Rocuronium, to optimize first pass success
- Airborne and contact precaution: N95, face shield, goggles, head cover, neck cover, AAMI level 3 gown, double gloves, washable footwear
- Outside the room: time out, pre-intubation checklist, proper donning, intubating tower with standardized modular bins (1-3 with escalating airway difficulties)
- Importance of simulation re: ergonomics and space constraint
- Clamping of ETT anytime when there is disconnection to prevent direct aerosolization to atmosphere, ideally should be part of routine airway practice
- Room management: if possible 3 people in the room (intubator, cricoid / equipment, drugs / monitor), runner outside; Or second anesthesiologist outside the room as backup; balance the risk of having too many (>3) people in the room
- Large screen for videolaryngoscopy recommended; not necessarily have to be disposable blades, reusable blades can be easily processed.
- Stripped down the stand holding videolaryngoscopy (reduce waste, facilitate cleaning for quick turn over)
- Avoid cricoid pressure, likely not helpful and prone to distort anatomy
- Readily available Pre-intubation / post-intubation checklists; important to practice going through the checklist

- Simplified intubation drug cocktail to reduce cognitive load: Ketamine 100/150mg, Rocuronium 100/150mg, Phenylephrine 100/150mcg prn (100kg/>100kg)
- Be ready for inotropic support around the time of induction / intubation e.g. RV failure
- No capnograph tracing, be very cognizant about the possibility of esophageal intubation, don't just attribute it to cardiac arrest
- Anticipate rapid desaturation in this patient population
- If failed 1 attempt, optimized technique / position; judicious vice grip BMV / 2nd generation supraglottic device PPV for rescue
- If failed 2nd attempt, consider another intubator; ? front of neck access i.e. Cric
- Emphasized familiarity of devices / equipments; not time to try something new
- Meticulous doffing with a spotter (reading aloud a checklist) is emphasized
- Due to community spread, approach all patients as presumed COVID19 positive until proven otherwise
- Cardiac arrest / code blue with unknown COVID19 status: airborne and contact PPE prior to chest compression, preservation of HCW takes precedence; importance to liaise with local IP&C; staff anesthesiologists to attend code blue and COVID19 airway with the rest of the team step away during intubation
- Extubation strategy in COVID19+ patients: likely a high risk AGMP, minimize risk of reintubation, yet be ready to reintubate if needed, minimize as much coughing as possible, deep extubation is cautioned against unless it's something that you do on a regular basis; surgical mask over NP

- The Airway App (Android and iOS) to collect anonymous data about COVID-19 transmission to HC professionals: An Analysis by Country (<http://www.airwaycollaboration.org>)
- Intubation Team: UK / Europe a lot of centers adopt intubation teams models mainly run by anesthesiologists, Anesthesia-led intubation team for ER / ICU (close communication between different units is essential)
- Still important to adhere to basic airway principles; logistically / physiologically difficult but basic airway principles are still applicable
- Awake technique relatively contraindicated, primary surgical airway might be the preferred method if anatomically possible; Or LAM use if selected cases