COVID-19 INTUBATION

COVID-19 may cause profound hypoxemia with relatively little respiratory distress - increasing O2 requirements should prompt early consideration of intubation to prevent high risk exposure to staff given the degree of preparation required.

Airway Management Principles:
- Intubation represents a high risk for transmission to healthcare workers
- Priority is not to contaminate clinical staff while maintaining adequate patient oxygenation
- Meticulous donning & doffing of airborne PPE precautions
- Most experienced staff to perform
- Limit people & equipment in room
- Limit attempts to 3, unless there is an obvious way to optimize a further attempt
- Consider LMA if able to oxygenate, but not intubate - wait for help
- Consider cricothyrotomy if unable to oxygenate & ventilate

Target respiratory support to level of hypoxia and/or respiratory distress
NOTE: oxygen flows >6L/min require airborne precautions, so use lowest rate possible

MILD
- Sp02 target ≥88%
- Nasal prongs covered with surgical mask
- Intubation unlikely

MODERATE
- Sp02 target ≥88%
- Non-rebreather mask with surgical mask
- Intubation unlikely in first 4 hours of arrival
- Progress early to intubation if deterioration

SEVERE
- Early intubation as soon as it appears necessary
PRE-PROCEDURE
☐ Progressively rising FiO2 requirements
  • SpO2 ≤88-90% on 6-8L/min
  • FiO2 >50%
  • Severe respiratory distress
☐ Patient has a reasonable probability to benefit from intubation
☐ Goals of Care designation R1 or R2
☐ RAAPID has confirmed access to bed with a ventilator (1-800-661-1700)
☐ Recruit intubation team (MD, RN / EMS assist, RN scout / scribe)

PERSONAL PROTECTIVE EQUIPMENT (PPE)
☐ Standard AIRBORNE precautions indicated
  • N95 mask or poured air purifying respirator (PAPR)
  • Face shield
  • Gloves
  • Gown
☐ Consider (if available)
  • Goggles that seal to face
  • Disposable cap to cover hair
  • Disposable hood to cover neck
  • Two pairs of gloves, under-layer ideally extended-cuff surgical glove
  • Bunny suite for complete body cover

PREPARATION
☐ Suction between mattress & bed
☐ BVM with viral filter, PEEP valve & ETCO2 attached
☐ Tracheal tubes x2, stylet, 10mL syringe, lube, ETT securing device
☐ Bougie
☐ Oropharyngeal airway
☐ Video laryngoscope & blades to maximize space between airway & provider
☐ NG tube
☐ Medications - give all as IV push followed by NS flush
  Ketamine 1.5mg/kg (IBW) for induction
  Rocuronium 1.5mg/kg (IBW) for high-dose paralytic

Anteroom
☐ Direct laryngoscope (curved Mac 3 or 4) - check lights
☐ LMA with appropriate size selected prior
☐ Surgical airway kit (scalpel #10, 6.0 ETT, tracheal hook, curved hemostat, 1-0 suture)
☐ Norepinephrine infusion prepared for potential hemodynamic compromise
☐ Crash cart
PROCEDURE
☑ Pre-oxygenation x5min using BVM with two-hand seal - NO manual ventilations!
  Mask > Viral filter > ETCO2 > PEEP valve > BVM
  Do not use nasal prongs for apneic oxygenation
☑ Consider ketamine for hypoxic agitation to allow pre-oxygenation
☑ Ensure patient FULLY PARALYZED prior to inserting laryngoscope

POST-INTUBATION
☑ Attach viral filter immediately to ETT
☑ Inflate cuff with 5-10mL air PRIOR to ventilation
☑ Confirm ETT placement with waveform capnography & CXR (NO stethoscope!)
  ETT placement 2cm above carina
  Exclude pneumothorax
☑ Secure ETT tube
☑ NG tube insertion
☑ Continuous monitoring of VS & GCS
☑ Manage hypotension with normal saline 0.9% bolus +/- norepinephrine infusion
☑ Sedation maintenance
☑ Isolate patient
☑ Meticulous doffing of PPE
☑ Check blood gas approximately 30min post-intubation - targets:
  pH 7.35-7.45 / PaO2 60-90mmHg (arterial) / PaCO2 40mmHg (venous or arterial)