# COVID-19 Advanced Airway Management

Version 1.3
2020-03-26
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## COVID-19 Advanced Airway

- Standard Operating Procedures
- Staff and Public Safety
- Oxygenation
- Intubation
- Positive Pressure Ventilation
- Limited Resources

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# Standard Operating Procedure

Special Precautions during Aerosol Generating Medical Procedures like intubation or bronchoscopy or CPR when patient with …

- Febrile Respiratory Illness where there is significant risk of COVID-19 in local community
- Suspected or confirmed COVID-19

CPR for COVID-19 arrest is of high risk to health care team and must be weight against chance of success; rapid intubation for presumed hypoxic arrest, prolonged efforts likely futile and increase risk.

When does one to consider incorporating special precautions into standard practice during pandemic/outbreaks?

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# Staff and Public Safety

Aerosol Generating Medical Procedures

- PPE (minimum) – gown, N95 fit-tested/seal-checked, goggles or face shield, gloves (double, cuff covers sleeve)
  - Hoods? Coveralls?
- Minimize staff exposure in time and numbers
- Negative Pressure room if available or an isolated room doors closed; Minimize door openings; Have runner/outside communication available
- Importance of doffing PPE; spotter/checklist?; automatic dispensing hand cleansers
- Decontamination of equipment (suction) and room aerosol risk time, PPE required

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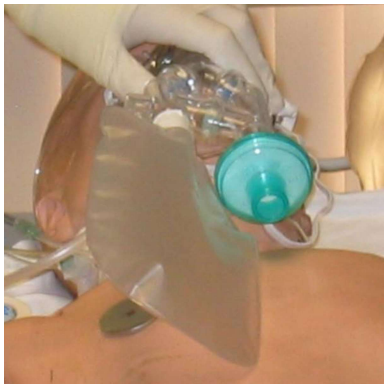
# Oxygenation

- Low flow nasal cannula <4-6 lpm with surgical mask on top
- >4-6 lpm advise Hi-Ox or Tavish type mask with filtered exhalation port



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# Oxygenation

High flow oxygenation in open circuit generates infectious aerosols

- Avoid nebulizations, High Flow Nasal Cannula (HFNC e.g. Optiflow) and Non-Invasive Ventilation (BiPAP, CPAP)
- Avoid Bag Valve Mask ventilation and Supraglottic airways if possible
- Avoid apneic oxygenation (high flow) during intubation
- Refractory hypoxemia so maintain high PEEP and avoiding derecruitment (BVM with two handed seal to face, PEEP and viral HME attached), low flow 4-6lpm oxygen to patient side of BVM valve (before filter), avoid positive pressure ventilation if possible
- Consider safety of closed circuit NIV BiPAP (two tube system) with viral HME filter, CPAP hood, or lower flow rate of HFNC

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# Intubation

- Monitor patient for respiratory failure (serial PaO2, PaCO2, pH, SpO2, P/F ratio)
- Not too early (risk to patient/staff and drain on resources) but not too late (uncontrolled): Earlier intubation to avoid crash tube or for medical transport, involve RCCR/ICU
- Risk of hypoxia and aerosols: Best intubator to minimize exposure time and attempts
- VL if available, use optimal techniques, backups ready (bougie, smaller tube)
- RSI recommended, avoid coughing, gagging, bucking or awake intubation. Have post intubation analgosedation +/- paralysis ready

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# Positive Pressure Ventilation (PPV)

- AVOID bag valve mask and supraglottic airway ventilation if possible, if these are necessary ensure **viral HME attached** to patient end and ensure that there is a **good seal** (e.g. use 2 person BVM technique with optimal positioning) and avoid high peak inspiratory pressures
- Recommended definitive airway is endotracheal tube with **cuff inflated** and **viral HME filter attached** before applying PPV
- Have **closed system in-line suction** ready at all times distal to the HME filter
- ETT and ventilation circuit secured to patient and secured connections to avoid leakage, accidental extubation; also adequate analgosedation
- Low Tidal Volume, High PEEP, lowest FiO2 possible ARDSnet ventilation strategy

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