

Queensland Paediatric Consensus Statement: Paediatric Intubation Guide during the COVID-19 outbreak

<https://www.childrens.health.qld.gov.au/wp-content/uploads/PDF/guidelines/paediatric-intubation-guide-during-COVID-19.pdf>

Based on current knowledge, most paediatric patients requiring emergent intubation will not have COVID- 19. Particular measures (in **red**) are essential in minimising staff exposure. Clinical care should not be compromised by additional measures but staff safety must be a priority.

Edited for teaching purposes for APLS/PLS courses. These are general guidelines only. Practice will be modified by local circumstances and protocols. Please be familiar with your own local guidelines

Approach to Intubation

1. Pre-brief team outside room by proceeding through this list – take into room.
2. Use **COVID** airway checklist inside room, (Appendix 7)

Planning:

- **Negative Pressure room or single room with closed door**
- **Senior Clinician Involvement - Anaesthetics as early as possible**

Prepare:

- Experienced team, 3 staff in room, outside runner/other staff, pre-intubation huddle
- **COVID Intubation pack** (Appendix 4), **COVID airway checklist** (Appendix 7)
- airway staff to familiarise with **COVID circuit setup** (Appendix 2)
- **Video laryngoscope in room plugged in PLUS appropriately sized blade**
- **Communication method verbalised (whiteboard/speakerphone)**

PPE:

- **Airborne/contact PPE observed by spotter for those in room**
- **Primary airway operator should double glove**
- **Face shield/goggles**
- **Follow local protocols**

Pre-oxygenation:

- **Consider head up position**
- Pre-oxygenate with NRB @ 6L/min OR BVM/T-Piece, **+ viral filter**
- **Two handed technique to minimise leak**
- **Viral filter immediately above face mask in case of disconnection**
- **No Apnoeic Oxygenation**

Perform:

- **Most experienced operator**
- **Use Video Laryngoscopy as Plan A where available**
- RSI with **1.2-1.5mg/kg Rocuronium** and 1-2mg/kg Ketamine.
- Wait full 60 sec post paralysis where able

Post-ETT:

- **Inflate cuff prior to initiating ventilation**
- **Ventilate via complete suction/filter/CO2 circuit with BVM/T-Piece, never directly attached to ETT** (Diagram 2/3)
- **Remove outer gloves once position confirmed**
- **Avoid disconnection where possible**
- **Consider ongoing paralysis to avoid cough/vent dyssynchrony**

Statewide Paediatric Guideline

Emergency

Appendix 7

Queensland Paediatric Team Resus Brief and Airway Checklist **COVID**

Identify team members

Inside Room

- ☐ Airway Doctor (most experienced available)
- ☐ Airway Assistant
- ☐ Medical Team Leader + Drugs

Outside Room

- ☐ Nurse Team Leader and Scribe
- ☐ Runner
- ☐ Drug Nurse

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Has comprehensive monitoring been applied and working?

- SpO₂
- In-circuit EtCO₂
- Blood pressure (1 minute cycle)
- ECG

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Is the patient's position optimal?

- **Consider head up position**
- Bed height Optimised
- Consider C-Spine inline immobilisation

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Is the patient's preoxygenation optimal?

- **BVM or T-Piece with VIRAL FILTER**
- **Consider two handed mask technique**
- **No Apnoeic Oxygenation**

Confirm patency of appropriate IV / IO access

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Is the patient's haemodynamic status optimal?

- Consider fluids / inotropes / pressors

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Is airway equipment available, sized and checked (go through list)?

- | | | |
|---|--|--|
| <input type="checkbox"/> Suction | <input type="checkbox"/> Video Laryngoscope where | <input type="checkbox"/> Adjuncts - NP x 2 |
| <input type="checkbox"/> BVM + PEEP Valve | able + DL + blades | <input type="checkbox"/> Oropharyngeal |
| OR T-Piece | <input type="checkbox"/> ETT x 2 (+/- introducer) | <input type="checkbox"/> Tube tie/tapes |
| PLUS VIRAL FILTER | <input type="checkbox"/> LMA | <input type="checkbox"/> Bougie |
| above mask | <input type="checkbox"/> CICO equipment – outside room | |
| <input type="checkbox"/> Connection circuit as per COVID setup | | |

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Have the intubation drugs and doses been confirmed?

- Drugs (induction / paralytic / pressors / others) and doses
- Sedative infusion

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Team leader to verbalise airway management plans

- **All non-essential staff out of room (aim 3 staff only)**
- **Wait full 60 sec post paralytic administration prior to laryngoscopy where able**
- **Inflate cuff prior to ventilation**
- Include difficult airway plan

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Team resus brief complete - proceed to intubation



Paediatric Advanced Life Support (with COVID-19 considerations)

COVID-19 confirmed / suspected?

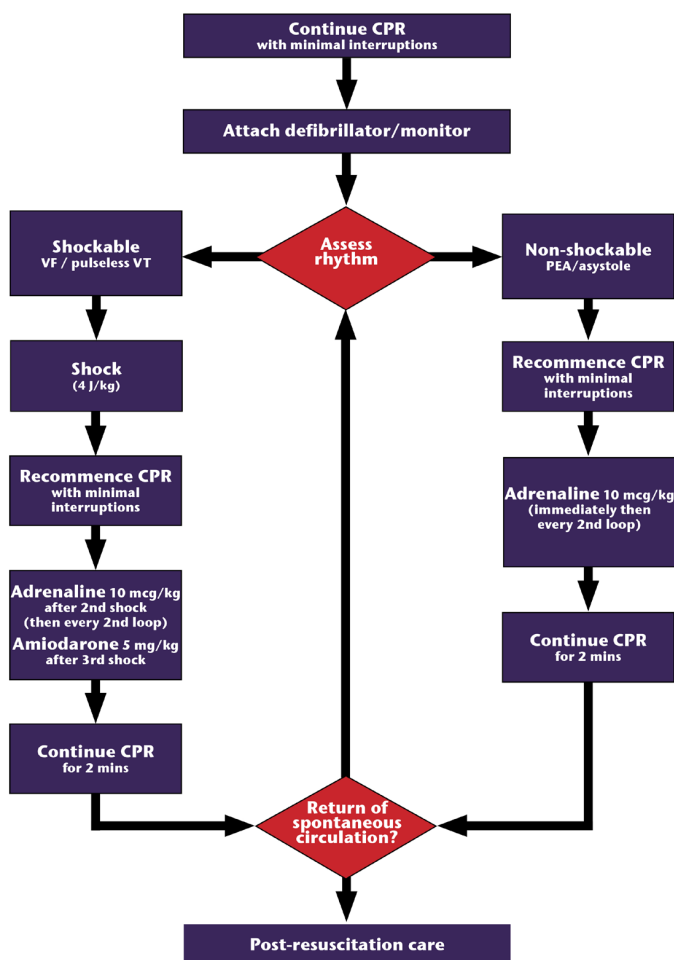
Principles for CPR management

- Minimise delays for effective CPR
- Appropriate *PPE for AGPs (including ECC, BVM, SGA, endotracheal intubation)
- Anticipate & prepare for deterioration, minimise delays in PPE application

Treatment recommendations for CPR

- Minimise people in room
- PPE in accordance with local guidelines for AGPs
- Viral filter between airway circuit and face mask, SGA or ETT
- Oxygen switched off before circuit disconnected
- Most experienced airway operator, using familiar airway techniques
- Aerosol generation minimised with following airway preferences:
 1. ETT, cuffed prefer to
 2. SGA (LMA 2nd gen or I-Gel)
 3. BVM, two-person technique, OPA, minimise leak

*PPE = personal protective equipment
AGP = aerosol-generating procedure
ECC = external cardiac compression
BVM = bag valve mask ventilation
SGA = supra-glottic airway
LMA = laryngeal mask airway
OPA = oropharyngeal airway



During CPR

Airway adjuncts (LMA/ETT)
Oxygen
Waveform capnography
IV/IO access
Minimise interruptions to CPR
Plan actions before interrupting compressions (e.g. charge manual defibrillator to 4 J/kg)

Consider and correct

Hypoxia
Hypovolaemia
Hyper/hypokalaemia/metabolic disorders
Hypothermia/hyperthermia
Tension pneumothorax
Tamponade
Toxins
Thrombosis (pulmonary/coronary)

Post-resuscitation care

Re-evaluate ABCDE
12 lead ECG
Treat precipitating causes
Re-evaluate oxygenation and ventilation
Temperature control (cool)

Statewide Paediatric Guideline

Emergency

Children's Health Queensland Hospital and Health Service

COVID - 19 circuit for BVM ventilation

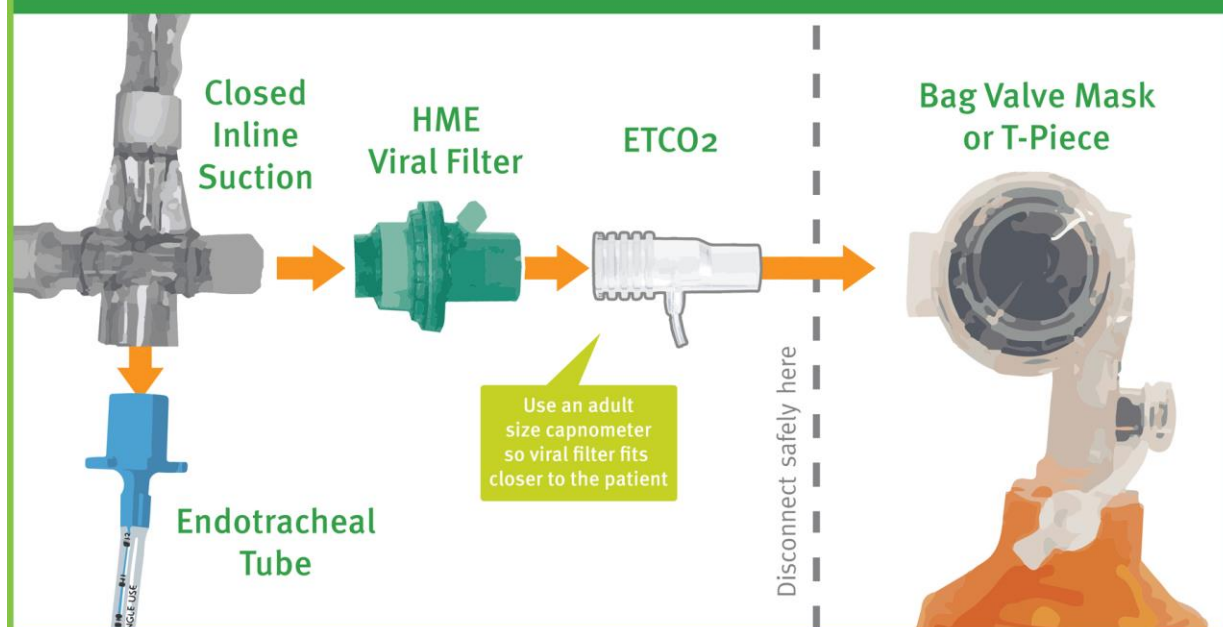


Diagram 2 - COVID-19 Circuit for BVM ventilation (applicable to T-Piece also)

Children's Health Queensland Hospital and Health Service

COVID - 19 Ventilator Circuit Assembly

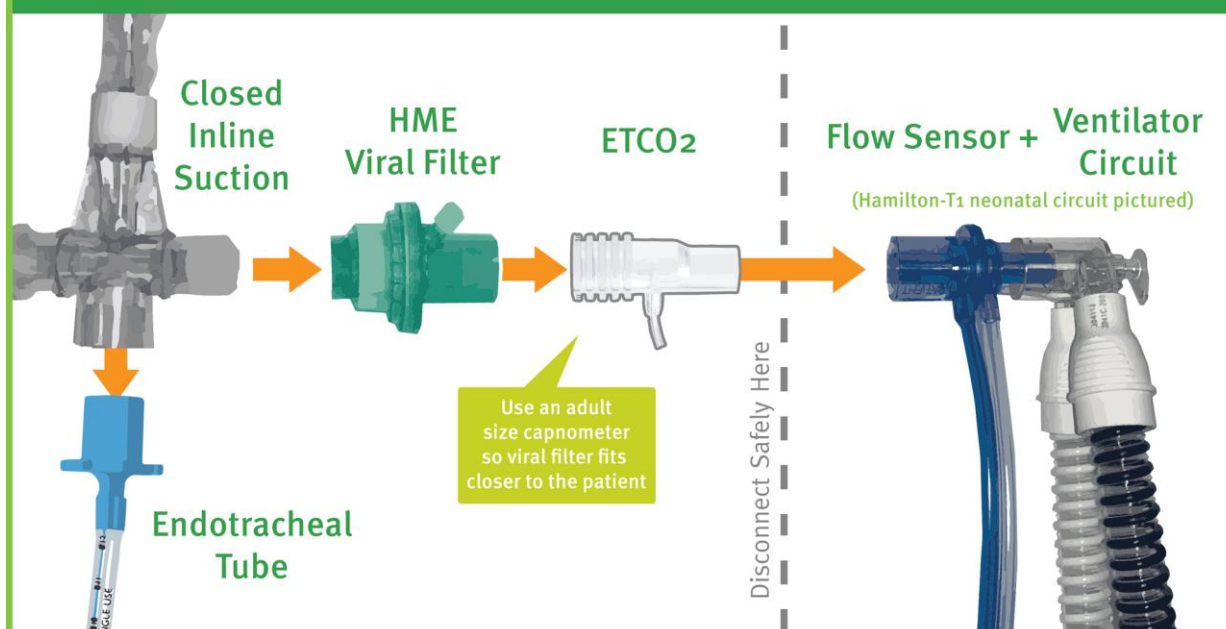


Diagram 3 - COVID-19 Ventilator Circuit Assembly

