



Safe use of oxygen and ventilatory devices for adults and paediatrics during the COVID-19 outbreak

Developed by the COVID-19 Respiratory Network, 26 March 2020

This is to provide a consensus guide to safe and practical use of resources for the treatment of suspected or confirmed COVID-19 patients for clinicians in WA based on best available evidence for application in local settings.

	Device	Setting	Precautions
Oxygen	Nasal Prongs (NP) 1-4L/min Paediatric NP (0-3L/min)	<u>ED</u> : Single room or cohorted COVID area <u>Ward</u> : Single room, cohorted COVID area. <u>ICU</u> : Single room, cohorted COVID area. <u>Transit</u> : Surgical mask on patient	Droplet
	Hudson Mask (4-8L/m) or Non Rebreathing Mask (8-15L/min)	<u>ED</u> : Single room or cohorted COVID area <u>Ward</u> : Single room, cohorted COVID area. <u>ICU</u> : Single room, cohorted COVID area. <u>Transit</u> : Surgical mask on patient.	Droplet
	Hi Flow Nasal Prongs (HFNP)*	<u>ED</u> : Single room if available, cohorted COVID area	Airborne

NON-INVASIVE VENTILATORY (NIV) THERAPY		Setting	Precautions
<ul style="list-style-type: none"> If the underlying condition poses a serious health risk use Non-vented NIV mask with HEPA filter and exhalation port to minimise aerosolisation. <p>Paediatrics: Patient needs to be assessed for safety of CPAP therapy cessation as dental devices cannot be used.</p>			
<p>NIV</p> <ul style="list-style-type: none"> No role for COVID with Type 1 Failure Consider for COPD in Type 2 failure and COVID/?COVID with no pneumonia Consider for decompensated Type 2 failure when NIV dependant (MND) and COVID/?COVID with no pneumonia 	<p>Adults: Use Blue Non-vented NIV mask with HEPA filter and exhalation port to minimise aerosolisation.</p> <ul style="list-style-type: none"> No humidification. Exhalation port should be placed on the device side of the filter (i.e. mask-filter-exhalation port-tubing-NIV device). Replace filter every 24 h. <p>Paediatric:</p> <ul style="list-style-type: none"> Non-vented masks should not be used in children Children should continue on their usual mask and equipment in a single room with aerosol precautions. 	<p><u>ED:</u> No NIV unless NPR or single room available – rapid transit to ward on controlled oxygen</p> <p><u>Ward:</u> NPR, Single room</p> <p><i>In COPD in Type 2 failure and COVID/?COVID or decompensated Type 2 failure when NIV dependant (MND) AND pneumonia, likely poor prognosis and high risk of aerosolization.</i></p> <p><i>In unlikely case arrive in ED NIV dependant, aim for NPR to allow decision making/GOPC. Prognosis likely poor.</i></p>	Airborne

Notes

- *See Brewster and ANZICS Guideline – risk with HFNP and nebulisers is much lower than previously thought and HFNP likely to be an important bridge to ICU AND for some, maximum but potentially life saving therapy.
- Other aerosol generating procedures (AGP): Intubation, extubation, bronchoscopy, tracheostomy, CPR and ventilation on an intubated patient - Recommend review individual protocols. Require Airborne precautions.
- Although negative pressure room (NPR) may be ideal for reducing staff exposure, there is limited availability. Transmission has been documented to be via droplets and hence a single room with a shut door, and avoidance of entry with aerosol precautions is deemed acceptable. Larger bed bays, suitably spaced (>3m between patients) with drawn curtains or barriers and clear signs indicating entry only if wearing appropriate PPE aerosol precautions also acceptable if no other options available.

Resources

- Brewster DJ, Chrimes NC, Do TBD et al. Consensus statement: Safe Airway Society principles of airway management and tracheal intubation specific to the **COVID-19** adult patient group. Med J Aust Published online: 16 March.
<https://www.mja.com.au/journal/online-first>
- ANZICS **COVID-19** Guidelines <https://www.anzics.com.au/coronavirus-guidelines/>
- British Thoracic Society [https://www.brit-thoracic.org.uk/media/455098/osa-alliance-cpap-**COVID-19**-advice-20-3-20-v10.pdf](https://www.brit-thoracic.org.uk/media/455098/osa-alliance-cpap-COVID-19-advice-20-3-20-v10.pdf)
- Consensus statement on the safe use of respiratory therapy to minimise aerosolisation of **COVID-19**. Australasian Sleep Association (Personal communication Dr S Mukherjee).
- Clinical Guidelines for the management of **COVID-19** in Australasian Emergency Departments Ver 1. 26 March 2020.
[https://acem.org.au/getmedia/78105c4b-5195-43f6-9c91-25dda5604eaf/Clinical-Guidelines-for-the-management-of-**COVID-19**-in-Australasian-emergency-departments](https://acem.org.au/getmedia/78105c4b-5195-43f6-9c91-25dda5604eaf/Clinical-Guidelines-for-the-management-of-COVID-19-in-Australasian-emergency-departments)

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