

## GUIDANCE for health service organisations

# Position Statement Nebulisation and COVID-19

## Position

Adults – Avoid nebulisation.

Children – Avoid nebulisation. Do not withhold therapy if indicated.

## Background

Nebulisation is NOT recommended in patients with COVID-19 as it may contribute to the spread of the virus.

## For patients self-managing COVID-19

A puffer or spacer should be used in preference to a nebuliser.

Nebulisers do not work as well as puffers and spacers for people with asthma even during an acute attack. Nebulisers disperse infectious virus particles often metres around and can rapidly spread infection from respiratory viruses, such as influenza and SARS-CoV-2.

The National Asthma Council has issued [advice for patients](#) as has [the Department of Health](#).

## Additional advice

The National Asthma Council: Australian Asthma Handbook:

- [Bronchodilator treatment](#)
- [Managing asthma during the COVID-19 pandemic](#).

## In acute care of COVID-19

Nebulisers can be driven by air, piped oxygen, or an oxygen cylinder fitted with a high-flow regulator capable of delivering above 6 litres per minute. Salbutamol is used in either in intermittent or continuous nebulisation.

The use of nebulisers carries a high risk (to staff and patients) of viral nosocomial aerosol infection. Nebulisation induces coughing, and this may contribute to virus spreading.

If using a nebuliser, clinicians should follow their HSO's infection control protocols to minimise spread of respiratory tract infections.

## Additional advice

- The NSW Health Agency of Clinical Innovation has [guidance on how to mitigate the risk of aerosol generating therapies](#)
- Consensus statement: [Safe Airway Society principles of airway management and tracheal intubation specific to the COVID-19 adult patient group](#)
- [Australian College of Emergency Medicine clinical guidelines](#).

## In children

Whilst nebulisation in children should be avoided, treatment should not be withheld if indicated. Information on paediatric treatment is available from

- [The Royal Children's Hospital Melbourne clinical guideline](#): Airborne precautions (full PPE including N95 mask) must be maintained if child requires high-flow oxygen, non-invasive ventilation or nebulised therapy.
- Queensland Health: [Children's Health Queensland and Health Service advice brochure](#).

## Further information

Aerosolisation is the production of small particles of water which, rather than falling to the ground as droplets, can flow through the air and spread more widely. The principles of managing the airway are to keep particle spread to a minimum and avoid aerosolisation as far as possible.

Nebulisation may be regarded as a non-aerosol generating procedure. However, nebuliser treatment induces coughing, and this may contribute to virus spreading. The Australian Society of Anaesthetists has developed a [statement on processes and techniques required to protect staff and prevent transmission of infection during airway procedures for patients](#) with known or suspected COVID-19 infection.

In addition, [the risk of infection transmission via aerosols may increase during nebulisation](#) due to the potential to generate a high volume of respiratory aerosols that may be propelled over a longer distance than occurs with natural dispersion.

## Resources

The Commission has produced a number of resources to promote infection prevention and control in the COVID-19 environment. These illustrate the use of personal protective equipment (PPE).

[Break the Chain Poster \(A3\)](#)

[Infection Prevention and Control COVID-19 Personal Protective Equipment](#)

[Special precautions for COVID-19 Designated Zones](#)

## References

The following references provide additional information on nebulisation as an AGP for consideration in COVID-19:

1. Simonds AK, Hanak A, Chatwin M, Morrell MJ, Hall A, Parker KH, et al. Evaluation of droplet dispersion during non-invasive ventilation, oxygen therapy, nebuliser treatment and chest physiotherapy in clinical practice: implications for management of pandemic influenza and other airborne infections. *Health Technol Assess* 2010;14(46):131–172 [www.ncbi.nlm.nih.gov/pubmed/20923611](http://www.ncbi.nlm.nih.gov/pubmed/20923611)
2. Judson SD and Munster VJ. Nosocomial Transmission of Emerging Viruses via Aerosol-Generating Medical Procedures. *Viruses* 12 Oct 2019, 11, 940 [www.ncbi.nlm.nih.gov/pmc/articles/PMC6832307/](http://www.ncbi.nlm.nih.gov/pmc/articles/PMC6832307/)
3. Seto WH. Airborne transmission and precautions: facts and myths. *Journal of Hospital Infection* 2014;89:225-228 [www.ncbi.nlm.nih.gov/pubmed/25578684](http://www.ncbi.nlm.nih.gov/pubmed/25578684)
4. British Columbia Provincial Infection Control Network. Respiratory Infection Outbreak Guidelines for Health Care Facilities: Reference Document for use by Health Care Organizations for Internal Policy/Protocol Development. April 2018 [www.picnet.ca/wp-content/uploads/Respiratory-Infection-Outbreak-Guidelines-for-Healthcare-Facilities-March-20.pdf](http://www.picnet.ca/wp-content/uploads/Respiratory-Infection-Outbreak-Guidelines-for-Healthcare-Facilities-March-20.pdf)

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If you have feedback regarding this position statement, please email: [medsafety@safetyandquality.gov.au](mailto:medsafety@safetyandquality.gov.au)