

AEROSOL GENERATING PROCEDURES (AGPs)

INTENDED AUDIENCE: Clinical and Operational Leaders/Teammates caring for patients in acute care and ambulatory/outpatient settings.

PURPOSE: To provide guidance on protection from respiratory exposure to patient-generated aerosols.

BACKGROUND-Updated: 7.19.23

Some procedures performed on patients are more likely to generate higher concentrations of infectious respiratory aerosols than coughing, sneezing, talking, or breathing. These aerosol generating procedures (AGPs) potentially may increase risk for pathogen exposure and infection. There is neither expert consensus nor sufficient supporting data to create a definitive and comprehensive list of AGPs for healthcare settings.

This document provides guidance on preventing transmission of SARS-CoV-2, the virus that causes COVID, during and following AGPs based on current CDC guidance and available evidence.

ASSESSMENT: A comprehensive literature review by infectious disease, infection prevention, surgery and anesthesia leadership resulted in amendments to our current clinical practice recommendations.

*CDC defined AGP's: Commonly performed medical procedures that are often considered AGPs, or that might create uncontrolled respiratory secretions, include:

- open suctioning of airways
- sputum induction
- cardiopulmonary resuscitation
- endotracheal intubation and extubation
- non-invasive ventilation (e.g., BiPAP, CPAP)
- bronchoscopy
- manual bag ventilation (without bag/mask valve)

*AAH adopted CDC AGP list

Based on the limited available data, the following procedures are not included on the CDC AGP list and considered lower risk:

- *High flow nasal cannula*
 - *Risk may further be reduced when patients wear a surgical mask over their high flow cannula when in the presence of team members or visitors.*
- *Nebulizer therapy*

RECOMMENDATIONS: Mitigation Strategies:

To reduce the risk of transmission, these strategies should be followed when performing Advocate Health Care and Aurora Health Care defined AGP's on patients who exhibit symptoms consistent with possible acute COVID diagnosis.

- *Use of N95 respirators, eye protection, gown and gloves are required. Teammates should follow the [Transmission base Isolation Reference Grid](#).
- *Negative pressure rooms are preferred for the CDC-defined AGPs outlined above, when available. If a negative pressure room is not available, ensure that the door remains closed and include the following air exchange protocol:

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- “AGP in Progress” signage should be placed on the outside of door for the duration of AGP treatment including timeframe for air-exchange completion.
- Once the procedure is completed, the patient should be masked. After the patient is masked, the designated time for air exchange begins.
- The time to complete air exchange is dependent on the number of exchanges per hour the room is able to generate.
- Contact the site Facilities Management department to assess the air exchange rate, if unknown. See the Air Contaminant Removal Grid in the reference section of this document for additional guidance.
- Room turnover and cleaning may occur with the door closed and appropriate PPE during this air exchange time.
- Clean and disinfect surfaces after procedure.

Teammates are encouraged to enhance their PPE during any procedure or setting if they have personal or health concerns

Environmental Considerations

CDC airborne contaminant removal (air exchange per hr./time for room to be vacant), it is recommended to follow the 99.9% efficiency timeframe as viewed in column two below.

1. Airborne Contaminant Removal

Table B.1. Air changes/hour (ACH) and time required for airborne-contaminant removal by efficiency *

ACH § ¶	Time (mins.) required for removal 99% efficiency	Time (mins.) required for removal 99.9% efficiency
2	138	207
4	69	104
6+	46	69
8	35	52
10+	28	41
12+	23	35
15+	18	28
20	14	21
50	6	8

* This table is revised from Table S3-1 in reference 4 and has been adapted from the formula for the rate of purging airborne contaminants presented in reference 1435.

+ Denotes frequently cited ACH for patient-care areas.

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References

1. [Klompas, et al. – What is an AGP?](#)
2. [Li, et al. Aerosol generating procedures and virus transmission](#)
3. [CDC Air exchanges](#)
4. [Tran, Cimon, et al – AGP and risk of transmission to HCP](#)
5. [CDC FAQ-Which procedures are considered aerosol generating procedures in healthcare settings](#)