

What is an aerosol?

Aerosols are very small particles, or germs, from the lungs and windpipe that are small enough and light enough to float in the air for long periods of time. These small particles can travel more than 6 feet and be inhaled by someone wearing not wearing an N95 respirator.

What is an Aerosol-Generating Procedure? (AGP)

Some procedures performed on residents are more likely to generate higher concentrations of infectious respiratory aerosols than coughing, sneezing, talking, or breathing. These aerosol generating procedures (AGPs) potentially put staff and others at an increased risk for pathogen exposure and infection. It is important to know which activities in your facility may be considered an AGP and know when to take additional precautions to keep other residents and staff safe.

What Healthcare Procedures Create Aerosols?

A comprehensive list of AGPs does not currently exist due to limitations on data collection and research. Below is a list of procedures that are usually considered AGPs:

- **Open suctioning of airways** - inserting a long suction catheter into a resident with a breathing tube. An open suction catheter does not have a protective covering from an inline system.
- **Sputum induction** - giving someone a special saline nebulizer to cause enough coughing for them to spit out a mucus sample.
- **Cardiopulmonary resuscitation** - CPR, performing chest compressions and giving breaths into their mouth if they have stopped breathing or their heart has stopped
- **Endotracheal intubation and extubation** - putting in or removing a breathing tube
- **Non-invasive ventilation** - BiPAP or CPAP
- **Bronchoscopy** - inserting a very small tube-like camera into the lungs
- **Manual ventilation** - squeezing a balloon-type device (BVM) into somebody's mouth to breath for them if they have stopped breathing
- **Nebulizer Administration** - A machine that changes a medicine from a liquid to a mist that is breathed in
- **High flow oxygen delivery** - Oxygen that is delivered above 15 Liters

Reducing Exposure to Germs Spread During an AGP

Find an alternative to AGP if possible.

- Consider an inhaler rather than nebulized medication, always consult the doctor for making treatment changes
- Consider inline suction rather than open suction for ventilated residents

Room Considerations

- Airborne isolation infection room (AIIR)**

An AIIR is a room where the air flows *into* the room from the hallway. These rooms are usually created by engineers and exist in hospitals. An AIIR is an ideal way to prevent small particles from an AGP from floating out into the hallway. Most long-term care facilities do not have an AIIR available as they are expensive and have very strict requirements for HVAC systems that are not usually attainable for facilities. There are other measures that can be used to reduce the spread of aerosols.
- Use private rooms for Aerosol Generating Procedures (AGP)**
 - Avoid shared rooms if possible for residents with AGPs
 - If unavoidable, consider removing the roommate from the room during the AGP and for at least 2 hours afterward

Increase airflow and ventilation (in the right direction!)

- Close the door to a room where an AGP is taking place to prevent germs from floating out into hallways or other rooms.
- Place a sign on the door to prevent staff or visitors from entering the room unnecessarily
- If possible, open a window to allow fresh air to come in and germs to go outside
 - If a window is open, ensure people are not gathering right outside
- If there is a private bathroom in the room, turn the exhaust fan on to pull contaminated air to the outside
- When using a portable fan
 - Place fans on stands or use box fans on tables
 - Do not place fans so that the air blows across one resident to another
 - Blow air from the inside of the room out of an open window
 - Place the fan in or near the window to push air to the outside. Ensure that there is not an open window to an adjacent room.
 - When possible, open a second window in the room.
- Fans should not be
 - Placed on the floor
 - In a room without an open window
 - On a high setting

Keep room closed for at least 2 hours after an AGP and then disinfect surfaces

- When an AGP is completed, keep the door closed for 2 hours if possible. This allows time for air exchange, which means the outdoor air replaces the contaminated indoor air. It also gives the larger particles time to settle on surfaces so it can be cleaned and disinfected.
- Staff should wear the correct PPE (see below) if they go in the room during the 2 hours after the AGP.
- If possible keep the window open and the bathroom exhaust fan on during this time.
- After 2 hours, clean and disinfect high touch and horizontal surfaces such as tables, bed rails, and door knobs.
- A resident may be removed from the room right after an AGP if, the resident is placed in clean clothes prior to leaving room.

PPE Use

- An NIOSH approved N95 respirator should be worn whenever there is concern that a resident receiving an AGP might have COVID-19. Wearing a fit-tested NIOSH approved N95 respirator protects the wearer from infectious aerosols created during an AGP.
- In addition to wearing an NIOSH approved N95 respirator, eye protection, gowns, and gloves is recommended during an AGP for a symptomatic or confirmed individual with COVID-19.
- Please refer to your regulatory and licensing agencies as well as public health guidelines for current recommendations and requirements.

Use your discretion at all times. If there are doubts about an AGP, consult with your local health department for assistance. If immediate entry to a room is required, staff should be instructed to wear an N95 respirator, gown and gloves until clarification is obtained.

Resources

CDC Airborne Contaminant Removal- Air exchange. CDC recommends to ACH to clear airborne contaminants from a patient room in health care setting

<https://www.cdc.gov/infectioncontrol/guidelines/environmental/appendix/air.html>

CDC Infection Prevention Recommendations for Health Care Facilities

<https://www.cdc.gov/coronavirus/2019-ncov/hcp/infection-control-recommendations.html>



Clinical Questions about COVID-19: Questions and Answers. “Which procedures are considered aerosol generating procedures in healthcare settings?”

<https://www.cdc.gov/coronavirus/2019-ncov/hcp/faq.html>

OHA COVID-19 Public Health Recommendations: Indoor air considerations for smaller spaces

https://sharesystems.dhsoha.state.or.us/DHSForms/Served/le3725_R.pdf