

COVID-19

Recommendations for Negative Pressure Rooms and/or HEPA Filtration



The importance of PPE during aerosol-generating procedures

Providers wearing the correct PPE (respirator, face shield, gown, gloves, shoe covers) while performing aerosol-generating procedures on patients with suspected or confirmed COVID-19 are protected from exposure, regardless of whether the procedure is performed in a negative pressure room or HEPA-filtered environment.



N95/
PAPR Hood

Gown

Gloves

Eye
Protection

Shoe
Covers

Commonly performed medical procedures that are considered aerosol-generating procedures by the CDC include:

- bronchoscopy
- cardiopulmonary resuscitation
- endotracheal intubation and extubation
- manual ventilation
- non-invasive ventilation (e.g., BiPAP, CPAP)
- open suctioning of airways
- sputum induction

Other procedures such as nebulizer administration and high-flow O₂ delivery may also generate aerosols; however, the extent to which these procedures increase risk of exposure to healthcare workers not wearing PPE is unknown.

What role does negative room pressurization or HEPA filtration play?

- Negative room pressurization and HEPA filtration remove aerosols from the environment, decrease environmental contamination of the room itself following aerosol-generating procedures, and decrease the time that a room must remain closed before it can be entered by individuals without respiratory protection.*
- If available, HEPA filters may be placed in non-negative pressure rooms prior to anticipated aerosol-generating procedures, but this is not required for safety of the staff in the room at the time of the procedure.
- Note that many operating rooms and procedure rooms are equipped with HVAC systems that deliver a high number of air exchanges per hour (ACH). When the number of ACH exceeds 15, HEPA filtration does not provide additional benefit.

What if a HEPA filter is not available?

- Thorough cleaning of the environment and reusable equipment is important to reduce the risk of transmission from infected patients to other patients and healthcare workers.
- Staff must wear respiratory protection when entering the room for the designated time after the aerosol-generating procedure is performed.*
- Patients with COVID-19 infection generate short-range aerosols that do not typically travel distances beyond 6 feet. Therefore, in contrast to true “airborne” diseases like measles, we are not concerned for hallway contamination, even when negative pressure rooms or HEPA filtration are unavailable.

*For non-negative inpatient rooms, the time period is 2 hours. For procedure rooms, please refer to your area-specific COVID plan.

