

ASPR TRACIE Technical Assistance Request

Request Receipt Date (by ASPR TRACIE): 8 March 2021

Response Date: 8 March 2021

Type of TA Request: Standard

Request:

The requestor asked for resources on the management of COVID-19 patients in an operating room (OR)/ surgical suite. In particular, the requestor asked for information on converting a regular OR into one with negative pressure; as well as recommendations for filtration systems, ultraviolet light (UV) systems, and others that are being used in ORs treating COVID-19 patients.

Response:

The following response was provided directly by the Centers for Disease Control and Prevention (CDC). The resources indicated by CDC are also included in the [ASPR TRACIE COVID-19 Hospital Resources Collection](#) and the [ASPR TRACIE Hospital Operations Toolkit for COVID-19](#).

Please refer to the CDC's [Coronavirus Disease 2019 webpage](#) and the National Institute of Health (NIH) [COVID-19 Treatment Guidelines](#) for the most up-to-date guidance on COVID-19 outbreak management.

During the current pandemic response, CDC has advised AGAINST converting ORs into negative pressure. This is consistent with guidance from American Society for Health Care Engineering (ASHE) (<https://www.ashe.org/ashe-issues-recommendation-or-use-during-covid-19>) and American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) (<https://www.ashrae.org/technical-resources/healthcare>). Instead, surgeries and other procedures on COVID-19 positive patients should follow the same guidelines for active Tuberculosis (TB) patients:

- Only medically necessary surgeries or procedures should be scheduled and performed “after hours” or when there are no other non-COVID-19 positive patients within the suite.
- Develop a dedicated COVID-19 OR and procedure room.
- Minimize the amount of equipment and supplies in room, which has been one proven action to prevent transmission.
- Minimize staff within the operating or procedure room and ensure all staff involved wear N95 respirators.
- All doors to the operating or procedure room should be kept closed as much as possible. Assigning a runner outside of the room who will retrieve medications, instrumentation, and other supplies to minimize opening of doors should be considered.

- If possible, intubation and extubation should be performed in an Airborne Infection Isolation Room.
- Terminal Cleaning should be performed only after the necessary number of air changes has occurred to remove potentially infectious particles. Review the Appendix B1 in CDC's [Best Practices for Environmental Cleaning in Healthcare Facilities: in Resource-Limited Settings](#) document for appropriate time frames.
- If it is determined that negative pressure is required for the surgical services, it is recommended that staff leave the room ventilated in a positive pressure status and utilize a negative pressure anteroom with a separate entrance between the operating and procedure room and the main hallway. This anteroom can also be used for donning and doffing of personal protective equipment (PPE) and the placing of supplies that are needed after case begins.

The logic behind recommending against converting ORs to negative pressure rooms is as follows:

- ORs have an obvious sterility requirement, which should be maintained.
- ORs already have a very high ventilation rate, which will rapidly dilute any viral contaminants generated.
- Patients can be intubated in a more protective negative pressure environment prior to being brought to OR.
- If warranted by an infection control risk assessment, the semi-equivalence of negative pressure in the OR can be accomplished through the use of portable negative pressure anterooms installed on the exit side of the entrances to the OR. These anterooms are commercially available and are HEPA-filtered, negative pressure anterooms designed to capture and remove aerosols escaping from the OR. Installation should be done in consultation with facility fire safety officials to ensure appropriate ingress/ egress protocols.