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# REVISED: The Use of Personal Protective Equipment by Anesthesia Professionals during the COVID-19 Pandemic

## Joint Position Statement

The American Society of Anesthesiologists (ASA), Anesthesia Patient Safety Foundation (APSF), American Academy of Anesthesiologist Assistants (AAAA) and American Association of Nurse Anesthetists (AANA) believe that the safety of anesthesia professionals is of utmost importance in developing policies related to personal protective equipment (PPE). Due to close patient contact and the need for airway instrumentation, perioperative professionals are at increased risk of exposure and infection for all diagnostic, therapeutic, and surgical procedures during the COVID pandemic in the U.S.

There can be a 5-day or longer incubation time between exposure to SARS-CoV-2 virus and development of symptoms. Individuals who are COVID-positive may also be asymptomatic or have minimal symptoms. A patient may be infected with SARS-CoV-2 and have a negative SARS-CoV-2 test. The diagnostic sensitivity of the SARS-CoV-2 test is dependent on sampling technique, fluid sampled, the test performed and the timing of the test relative to the infectious course.[1, 2] Therefore, we recommend as optimal practice that all anesthesia professionals should utilize appropriate PPE during aerosol generating procedures for all patients.

Appropriate PPE includes: fitted N95 masks; powered air purifying respirators (PAPRs); and may include other NIOSH or CDC approved respirator. PAPRs should be used by individuals who are not N95 fit-tested, have facial hair, or fail N95 fit-testing. Surgical face masks protect against SARS-CoV-2 droplet transmission but do not protect against aerosolized particles.

Issuance of N95 masks or availability of PAPRs, or other approved PPE, for all anesthesia personnel should be a priority. The CDC has raised concerns about the use of PAPRs and N95 or other disposable respirators with exhalation valves being inappropriate for OR use because the exhaled air would not be filtered.

A study of PAPR utilization in a laminar flow operating room found no increase in particulate transfer to the surgical field.[3] Additionally, PAPRs eliminated colony forming units in an operating room environment versus a 95% reduction when wearing a standard surgical mask.[4] Alternatively, a regular surgical mask may be worn under a PAPR or over a facemask respirator with an expiratory valve to afford standard protection from clinicians exhaled air in the operating room. Additionally, several publications recommend PAPRs for use in extremely aerosolizing procedures of the airway, lung, sinus oropharynx and skull base surgery.[5, 6]

Healthcare facilities may wish to implement extended use and/or limited reuse practices before shortages are observed so that adequate supplies are available during times of peak need and demand. Extended use and/or limited reuse of N95 masks should follow CDC guidelines.[7]

All components of appropriate PPE should be carefully addressed. Personnel participating in aerosol-generating procedures should wear eye protection (goggles or a disposable face shield that covers the front and sides of the face), a gown, and gloves, in addition to airway protection with N95 masks or PAPRs (https://www.cdc.gov/coronavirus/2019-ncov/hcp/infection-control-recommendations.html). Effective hand hygiene before putting on and after removing PPE, including gloves, is very important. Procedures for proper donning and doffing, disposal of contaminated PPE, and cleaning of contaminated reusable PPE and anesthesia equipment should be established following CDC and institutional recommendations. The CDC also recommends that facilities provide education and training in the use of PPE including having health care workers "demonstrate competency with donning and doffing."

In conclusion all anesthesia clinicians should have available appropriate PPE to protect them against infectious diseases spread via contact, droplet or aerosol routes. If the institution is unable to provide the appropriate level of PPE as well as with proper fit-testing and training, the clinician should be permitted to use their own protective equipment that has been fit tested.


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4. Howard RA, Lathrop GW, Powell N. Sterile field contamination from powered air-purifying respirators (PAPRs) versus contamination from surgical masks. American Journal of Infection Control. 2020;48(2):153-6.
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