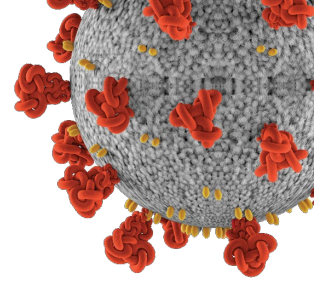
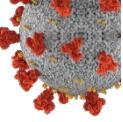


# Establishing a Practical and Safe Respiratory Protection Program in the OMS Office during COVID-19 with supply shortages and changing regulation



June 4, 2020

Based on discussions with OSHA and the CDC, AAOMS would like to provide specific and practical guidance to aid the oral and maxillofacial surgeon (OMS) in the decision-making process necessary to create an effective and compliant Respiratory Protection Program. Each employer must perform his or her own hazard assessment as it relates to SARS-CoV-2 and – based on that assessment – establish an appropriate respiratory protection plan to maintain the safety of employees. That plan should utilize OSHA’s controls, which are categorized as elimination, substitution, engineering controls, administrative controls and personal protective equipment (PPE). All OMSs should already be maximizing elimination by keeping COVID+ and persons under investigation (PUI) out of the office. Similarly, substitution is being utilized by avoiding aerosol-generating procedures, where possible, and favoring teledentistry if applicable. Administrative controls include the multitude of recommendations that have been presented in the AAOMS Interim Reopening Protocol, ADA toolkit and CDC Interim Infection Prevention and Control Guidance for Dental Settings During the COVID-19 Response. Engineering controls and PPE are the final steps in reducing the risk of SARS-CoV-2 transmission in the OMS office. There is no conclusive research available to direct the reduction of COVID-19 risk with certainty. Furthermore, the variability among surgical offices and the different local conditions make the necessary practice modifications different for each OMS. It is up to the employers to determine what is necessary to incorporate in their practice. If OMSs can provide sufficient respirator supply for appropriate use by their assistants, they may determine that additional engineering controls are not necessary. If OMSs would like to avoid the requirement for use of respirators, they can investigate implementation of engineering controls to bring the risk of exposure to the dental healthcare personnel down to that which is sufficient to indicate standard precautions with a face shield as is generally customary prior to COVID-19. AAOMS recommends the use of a multi-tiered or layered approach to engineering controls, especially if the goal is to avoid the use of respirators as PPE. The following diagram represents eight categories of methods and technologies available to filter or decontaminate the OMS office air.



## Engineering Controls

High-Volume Intraoral Evacuation

High-Volume Extraoral Evacuation

Portable or mounted in room HEPA Filtration

Germicidal Ultraviolet Light Irradiation (ceiling, ductwork or air filter)

HVAC MERV 16 filtration

Negative Pressure Isolation with outdoor exhaust

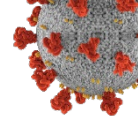
Strict Air Flow Management with clean to contaminated direction with outdoor air ventilation and exhaust

Air Scrubbing and Ionization

## Personal Protective Equipment

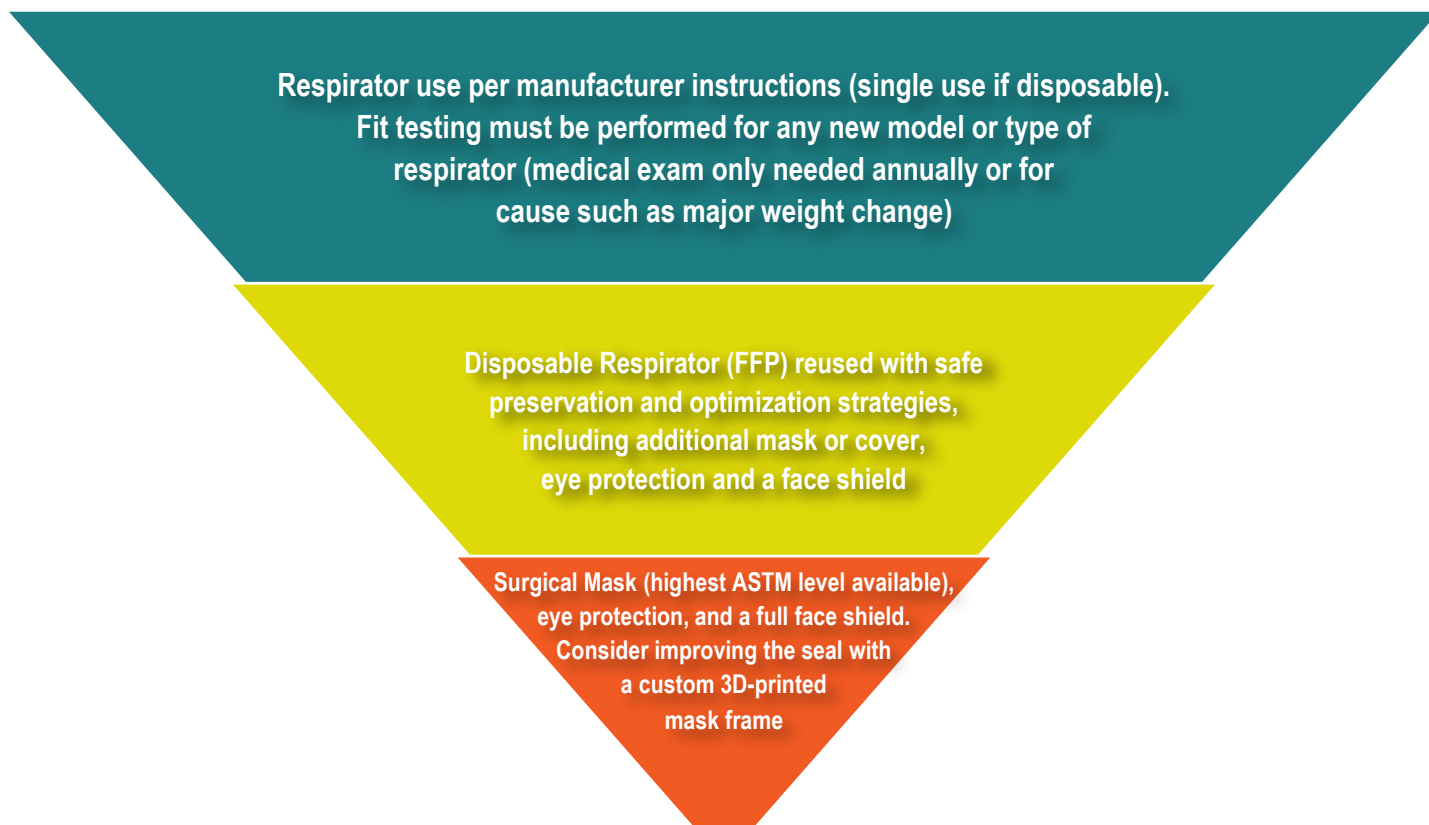
Where the employer cannot justify that the above hazard controls will decrease the risk of the employee to the SARS-CoV-2 respiratory hazard to low, appropriate personal protective equipment must be used. OSHA states that when prevention of atmospheric contamination cannot be accomplished with engineering controls, as is often the case with a potential asymptomatic SARS-CoV-2 infected “well patient,” appropriate respirators shall be used. It further recommends the use of a NIOSH-certified, disposable N95 filtering facepiece respirator or better during aerosol-generating procedures on well patients. Additionally, OSHA requires an initial fit test before use of a new model or type of respirator. Given the extreme national supply shortages, compliance with these regulations has become quite difficult, if not impossible. AAOMS recommends the hierarchy of preferential respirator use to maximize OMS and personnel safety. The highest level of protection available should be used, and active measures should be conducted to achieve the highest level of protection possible. If at any time employers do not believe they can adequately provide a safe work environment, they should stop the employee from performing those hazardous duties, even if that means limiting practice to emergencies only or ceasing clinical care completely.

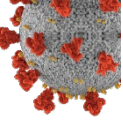
OSHA has confirmed that the Respiratory Protection Administrator can designate anyone he or she deems appropriate to perform fit tests. Though there is a current suspension of enforcement of the annual fit testing requirement, OSHA was very clear in communications with AAOMS that the initial and annual fit tests are still required. Furthermore, the initial fit test is required any time there is a change in model or type of respirator being used. However, the medical examination portion of the fit test only needs to be performed annually, or with cause,



such as a large change in weight. The basis for this requirement is that the chemical smell or taste fit test is the only way to determine with certainty that the fit of the mask is sufficient to prevent inhalation of the nanoparticles that the mask is being used to filter. There is an argument that a seal check should suffice; however, the detection of an air leak is less sensitive than the normal sense of smell or taste. The initial fit test determines that a satisfactory standard has been met, and that the employee is using an appropriate make, model and size respirator during patient care. However, if the respirator is not donned and seal checked properly, the protective properties of the respirator are significantly diminished. A properly fit tested and seal-checked respirator is a high level of respiratory protection and should be used preferentially even with reuse – and extended-use practices – if supply shortages deem that necessary. Filtering Facepiece Respirators with the designation N, R, or P and 99, or 100, and Powered Air Purifying Respirators are more protective than N95s but may be more difficult to obtain and may have higher costs. The CDC guidance states that when implementing reuse and extended-use strategies, other controls such as “selectively cancelling elective and non-urgent procedures” should be implemented. Voluntary use of reused or extended-use N95 respirators under a surgical mask and face shield, when supplies do not warrant single use, appears to comply with the CDC guidance and maximizes OMS and personnel safety. Voluntary use of respirators does not require a fit test; however, fit testing is the only way to ensure the respirator being used is effective at its desired function. If a fit-tested N95 or better respirator is not available, the highest-level ASTM surgical mask available protected by a full-face shield is acceptable. Though it has not been tested or confirmed by NIOSH, a 3D-printed custom mask frame will improve the seal around a surgical mask, decreasing air leakage and should be considered if surgical masks and face shields are to be used instead of a respirator. Respirator reuse, extended use and alternative respiratory protection strategies should not be implemented out of convenience or as a cost-saving strategy.

## Hierarchy of Respiratory Protection





## Per the CDC:

*Filtering facepiece respirators that have exhalation valves should not be used in surgical settings, unless covered by another mask, as unfiltered exhaled breath would compromise the sterile field. Elastomeric respirators should not be used in sterile surgical settings due to concerns that air coming out of the exhalation valve may contaminate the field. PAPRs should not be used in sterile surgical settings due to concerns that the blower exhaust and exhaled air may contaminate the field.*

## Preservation Strategies per CDC guidance include:

**Respirator Extended Use** – wearing the same N95 respirator for repeated close contact encounters with several patients, without removing the respirator between patient encounters. Maximum 8 hours.

**Respirator Reuse** – using the same N95 respirator for multiple encounters with patients but removing it (“doffing”) after each encounter. The respirator is stored in between encounters to be put on again (“donned”) prior to the next encounter with a patient.

## Considerations for safe N95 reuse

N95 respirators must only be used by a single wearer. To prevent inadvertent sharing of respirators, label containers used for storing respirators or label the respirator itself between uses with the user’s name to reduce accidental usage of another person’s respirator.

Follow the manufacturer’s user instructions, including conducting a user seal check.

Follow the employer’s maximum number of donnings (or up to five if the manufacturer does not provide a recommendation) and recommended inspection procedures.

Hang used respirators in a designated storage area or keep them in a clean, breathable container such as a paper bag between uses. To minimize potential cross-contamination, store respirators so that they do not touch each other and the person using the respirator is clearly identified. Storage containers should be disposed of or cleaned regularly. Alternatively there are decontamination methods for respirators, such as dry heat, vaporized hydrogen peroxide, and Germicidal Ultraviolet Light Irradiation. Though there are concerns for damaging the mesh structure and electric charge of the mask with these methods.

Use a pair of clean (non-sterile) gloves when donning a used N95 respirator and performing a user seal check. Discard gloves after the N95 respirator is donned and any adjustments are made to ensure the respirator is sitting comfortably on your face with a good seal.

Discard N95 respirators contaminated with blood, respiratory or nasal secretions, or other bodily fluids from patients.

Consider use of a cleanable face shield, or disposable water-resistant cover over an N95 respirator and/or other steps to reduce surface contamination.

Perform hand hygiene with soap and water or an alcohol-based hand sanitizer before and after touching or adjusting the respirator (if necessary for comfort or to maintain fit).

Discard any respirator that is obviously damaged or becomes hard to breathe through.

*This is an AAOMS recommended guidance based on currently available information. It is not intended to supplant or supercede federal, state or local laws and regulations and OMS employers should consult their own practice and legal advisors as necessary.*