

# A Guide for Choosing the Right Face and Respiratory Protection

Selecting the appropriate face and respiratory protection is a critical component of your **Personal Protective Equipment (PPE)** protocol. But in order to make the right choice, you need to understand the differences between each of the options as well as best practices to ensure you are safe and protected while treating your patients.

## The Differences in Surgical Masks and Respirators

### Surgical N95 Respirators



- Indicated for use when treating patients with airborne diseases such as TB
- Approved by NIOSH, the National Institute for Occupational Safety and Health
- Cleared by the FDA as a surgical mask
- Fluid resistance of up to 160 mm Hg
- Filters out at least 95% of airborne particles
- Forms a tight-fitting seal
- Medical evaluations and fit testing required
- BFE (bacterial filtration efficiency)  $\geq 99.9\%$  at 3 microns
- PFE (particulate filtration efficiency)  $\geq 99.9\%$  at 0.1 microns

### LEVEL 3 Surgical Masks



- Procedures where moderate to heavy amounts of fluid, spray and/or aerosols are produced
  - Complex oral surgery
  - Crown preparation
  - Implant placement
  - Periodontal surgery
  - Use of ultrasonic scalers (Magnetostrictive and Piezo)
  - Laser-based applications
- Fluid resistance of 160 mm Hg
- BFE (bacterial filtration efficiency)  $\geq 98\%$  at 3 microns
- PFE (particulate filtration efficiency)  $\geq 98\%$  at 0.1 microns

### LEVEL 2 Surgical Masks



- Procedures where light to moderate amounts of fluid, spray and/or aerosols are produced
  - Limited oral surgery
  - Endodontics
  - Prophylaxis
  - Restoratives/composites
  - Sealants
  - Scaling and root planing
- Fluid resistance of 120 mm Hg
- BFE (bacterial filtration efficiency)  $\geq 98\%$  at 3 microns
- PFE (particulate filtration efficiency)  $\geq 98\%$  at 0.1 microns

### LEVEL 1 Surgical Masks



- Procedures where low amounts of fluid, spray and/or aerosols are produced
  - Patient exams
  - Operatory cleaning/maintenance
  - Impressions
  - Lab trimming, finishing, and polishing
  - Orthodontics
- Fluid resistance of 80 mm Hg
- BFE (bacterial filtration efficiency)  $\geq 95\%$  at 3 microns
- PFE (particulate filtration efficiency)  $\geq 95\%$  at 0.1 microns

## What the Terms<sup>1</sup> Mean

**Fluid resistance** measures the ability to prevent fluids from traveling through the material. The higher the fluid resistance (measured in mm HG), the better the protection (measured in mm Hg).

**BFE (bacterial filtration efficiency)** measures the ability to prevent bacteria from traveling through the material (measured at 3 microns).

**PFE (particulate filtration efficiency)** measures the ability to prevent sub-micron particulates from traveling through the material. The size of the particles filtered is critical (measured at 0.1 micron).

## When Wearing a Surgical Mask

Refer to the manufacturer's instructions. This ensures you're following the steps specific to the surgical mask you're using.



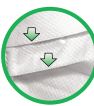
### Fully extend the mask.

This ensures your mouth, chin, and nose are properly protected by the mask.



### Have the exterior layer facing outward.

This ensures the fluid-resistant layer is on the outside to keep droplets from penetrating the mask.



### Have the pleats open downward.

This prevents pooling of condensate or aerosols that can result in wicking or soaking through the lining layer.



### Do not pinch the outside of the noseband with your thumb and index finger.

The exposed v-notch across the bridge of the nose and across the eyes has the most potential for gaps. Beginning at the bridge, smooth and shape the noseband to conform to your face.



### Do not twist the ear loops for a closer fit.

This causes the inner lining to be in close contact with your lips and nose, which leads to increased condensation and risk of contamination.



### Do not wear a loose mask that has gaps on the sides or under the chin.

This can result in an increased likelihood of exposure to contaminants.



### Avoid facial hair that may make mask fitting difficult.

Masks that fit well and minimize gaps protect you better. To achieve an optimal fit, beards should be shaved or trimmed close to the face.

## Change Your Mask After Each Patient



**Surgical masks are designed, manufactured, and FDA-cleared as a single-use medical device.**



**The protective filtration quality goes down with use.**

- The outside becomes soiled from exposure to splatter and aerosols.
- The inside becomes soiled from your breath.



**Airborne microorganisms can then penetrate the wet fabric.**



**Recommendation is to change your mask every 20 minutes in a moderate-to-high aerosol environment.<sup>2</sup>**

## When Wearing a Surgical N95 Respirator



• A user seal check should be performed upon donning the respirator. The wearer will exhale while wearing the respirator. If air can be felt escaping around nose, adjust nosepiece. If air can be felt leaking at respirator's edges, unfold or adjust respirator and/or headbands and refold or re-twist chinpiece if so equipped.



• A user seal check should be done every time the respirator is donned and is not a substitute for qualitative or quantitative fit testing.

• Per OSHA Respiratory Protection Standards, a medical evaluation and fit testing are required before the first use of an N95 respirator.

• Thereafter, fit testing is required annually or if user experiences a significant loss or gain of weight, extensive dental work, scarring, or cosmetic surgery.

1) ASTM Standard specification for performance of materials used in medical face masks – F2100-11 Standard.

2) CDC Summary of Infection Prevention Practices in Dental Settings, [www.cdc.gov/oralhealth/infectioncontrol/pdf/safe-care2.pdf](http://www.cdc.gov/oralhealth/infectioncontrol/pdf/safe-care2.pdf)