



## Face Masks

### What To Wear And When

Sponsored by:

**SultanHealthcare**  
infection prevention.

#### LEVEL:

1

#### ASTM Low Barrier:

For procedures where fluid, spatter, and/or aerosols are produced in low concentrations.

#### Procedures:

- Patient Exams
- Operatory Cleaning/Maintenance
- Impressions
- Lab Trimming, Finishing & Polishing
- Orthodontics

2

#### ASTM Moderate Barrier:

For procedures where generation of fluid, spatter and/or aerosols is moderate.

#### Procedures:

- Restorative/Composites
- Endodontics
- Prophylaxis
- Sealants
- Scaling & Root Planning
- Limited Oral Surgery

3

#### ASTM High Barrier:

For procedures where heavy to moderate levels of fluid, spatter and/or aerosols are produced.

#### Procedures:

- Crown Preparation
- Implant Placement
- Use of Ultrasonic Scaler
- Use of Piezo Scaler with Water or Medicaments
- Periodontal Surgery
- Complex Oral Surgery

# *Surgical face masks are medical devices regulated by the Food and Drug Administration.*

Mask use in health care was initially recommended for protection against bacteria and viruses aerosolized during treatment. As further knowledge was obtained concerning respiratory infections and their control, the rationale for wearing masks was expanded to include protection against spatter particles, splashes, and aerosols. The highest concentration of dental aerosols is found within 2 feet in front of the patient, typically where a dental care provider is positioned. The extent of exposure to aerosolized particles during dental procedures can be extensive. In addition, as larger droplets evaporate, residual droplet nuclei, smaller than 10 microns ( $\mu\text{m}$ ) in diameter, form and can remain airborne for extended periods in dental treatment areas. Ninety-five percent of dental treatment-generated aerosols are 5  $\mu\text{m}$  or less in diameter and contain multiple types of pathogenic bacteria and viruses.

*Masks that cover the nose and mouth can protect health professionals when used properly.*

*Masks should be changed:*

1. For each patient;
2. After 1 hour during prolonged treatment procedures;
3. Every 20 minutes in a highly aerosolized environment.

*The filtration capabilities of masks are determined by:*

1. Size of the pores in the mask in microns.
2. Filtration efficiency, as measured by the percentage of particles filtered out by the mask.

## *ASTM F2100 Medical Face Mask Material Requirements by Performance Level*

	ASTM Level 1	ASTM Level 2	ASTM Level 3
<b>FLUID RESISTANCE, mmHg</b>	80	120	160
<b>BFE</b>	$\geq 95\%$	$\geq 98\%$	$\geq 98\%$
<b>PFE, @ 0.1 micron</b>	$\geq 95\%$	$> 98\%$	$> 98\%$
<b>DELTA P, mm H<sub>2</sub>O/cm<sup>2</sup></b>	$< 4.0$	$< 5.0$	$< 5.0$
<b>FLAME SPREAD</b>	Class 1	Class 1	Class 1

### **FLUID RESISTANCE:**

- Represents mask's resistance to penetration by synthetic blood under pressure (mmHg)
- Measures ability of mask's construction to minimize fluids from traveling through the material and potentially coming into contact with the wearer
- The higher the fluid resistance (filtration), the better the protection

### **BFE (Bacterial Filtration Efficiency):**

- Represents percentage of bacteria filtered out at pore size of 1 – 5 microns
- The measure of efficiency of the mask filtering bacteria through it

### **PFE (Particulate Filtration Efficiency):**

- Represents percentage of particles filtered out at a pore size of 0.1 – 1.0 microns
- The measure of the efficiency of the mask in filtering particles passing through it
- The size of the particles filtered is critical

### **DELTA P (Differential Pressure):**

- Represents the pressure drop across the mask or resistance to air flow in mmH<sub>2</sub>O/cm<sup>2</sup>
- Determines breathing resistance
- Higher the Delta P, the less breathability, but the better the filtration

### **FLAME SPREAD:**

- Measures flame spread of the mask material

**Source:** *The American Society for Testing and Materials. Standard specification for performance of materials used in medical face masks. F2100-11 Standard*

## Donning Mask:

1. Clean hands before touching mask
2. Orient mask for proper placement
  - a. Front vs. back – *side facing up in box is always the front of the mask*
  - b. Up vs. down – *pleats should open downward (i.e., “waterfall” effect)*
  - c. Aluminum noseband is pre-bent to the contour of the nose to help with orientation
3. Holding mask by earloops, place loops around each ear
4. Mold malleable strip at top edge of mask to shape of nose
5. Pull bottom of mask over mouth and chin



## Mask Removal:



1. Avoid touching front of the mask that is now contaminated
2. While only touching the earloops, lift mask off ears and remove from face
3. Dispose of used mask in waste receptacle  
*(note – contaminated masks are not considered regulated medical waste)*



## Factors to Consider When Selecting Face Masks:

- Able to provide appropriate protection for airborne particles generated during the procedure
- Made of soft material that doesn't irritate skin or induce an allergic reaction
- Comprised of material that does not collapse when worn or when wet
- Able to provide appropriate protection for airborne particles generated during the procedure
- Has a high bacterial filtration efficiency (BFE)
- Easy to put on and remove
- Does not contact the wearer's nostrils or lips
- Does not cause fogging of eyewear
- Masks are effective only when covering healthcare worker's nostrils

*Proper Fit + Proper Wearing = Maximum Protection*



Correct



Incorrect

*Luxurious feel.  
Multiple levels of  
protection.*

Com-Fit Plush™ Masks contain an innovative inner material that feels silky soft on your skin—along with gentle ear loops and a curved noseband for a perfectly pleasure fit. And since they are available in ASTM Levels 1-3, you'll be as protected as you are comfortable.



REF #	DESCRIPTION	FLUID RESISTANCE	QUANTITY
20352	Com-Fit Plush - CFP-1	Low, 80 mmHg	40 count
20353	Com-Fit Plush - CFP-2	Moderate, 120 mmHg	40 count
20354	Com-Fit Plush - CFP-3	High, 160 mmHg	40 count

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