Using fluoride varnish to combat pandemic-related oral health risks

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The COVID-19 pandemic presents new challenges in oral disease prevention. Factors such as increased intake of acidic beverages and mandatory mask usage throughout the workday mean that every patient has some form of elevated risk for tooth decay. Our ability to control these risks starts with education and proper selection of caries control therapies, such as a fluoride varnish with xylitol.

Mask mouth

"Mask mouth" is a term used to characterize the risks faced by patients coping with prolonged mask usage, such as dry mouth, bad breath, tooth decay, and increased gingival inflammation. PN Medical studied the effect of mask-wearing on breathing and found that masks caused patients to increase their rate of mouth-breathing, which reduced the amount of saliva in the mouth.[1] Additionally, the recycled air that patients breathe can trap carbon dioxide, which increases the oral microbiome's acidity and leads to increased risk of caries and gingival diseases.[2]

Clinical studies on the effectiveness of xylitol

Xylitol is a naturally occurring, five-carbon sugar alcohol that has been studied for the last 40 years for its effect on dental caries. Science has shown xylitol to be an agent of caries control due to its bacteriostatic and bacteriocidic properties.[3] It's a true game-changer for our high-risk patients. It is unique in that it tastes sweet, but doesn't spike the glycemic index. Xylitol can reduce the levels of *Streptococcus mutans* in plaque and saliva by disrupting their energy production process, leading to cell death.[3] By reducing the adhesion of *Streptococcus mutans* to the tooth surface, acid production drops. Salivary flow and pH levels increase with the use of xylitol, which decreases the high-risk factors of caries.[3]

Educational experience

We must be aware of insurance, but not allow it to dictate treatment. If a patient presents with one or more risk factors, fluoride varnish should be considered. The patient's risks don't change based on whether their insurance covers the treatment. Patient education makes all the difference when it comes to compliance with recommendations. One example of this is, "Due to your specific risks, I recommend a fluoride varnish treatment. This treatment will help prevent the progression of tooth decay." Taking the time to educate on the difference between systemic fluoride and topical fluoride is another great way to achieve patient compliance.

Profluorid Varnish

Profluorid Varnish (Voco) is a product that offers enamel protection. Profluorid Varnish contains xylitol and 5% sodium fluoride, which is 22,600 ppm. The fluoride ion partners with the calcium ion to effectively seal the dental tubules to decrease sensitivity and increase ionic uptake to slow the demineralization process. Additionally, Profluorid Varnish causes calcium fluoride deposits to form on the tooth surface and contributes to the overall formation of fluorapatite for long-term benefits against acid attacks. Profluorid Varnish is equipped with a rosin matrix that allows the product to endure moist surfaces. The application process is simple, since a completely dry tooth surface is not necessary, which increases efficiency and patient compliance. The enhanced flow characteristics allow the varnish to reach areas that traditional varnishes may miss. Not only is the product scientifically proven, but it tastes phenomenal and is tooth-colored. The product comes in seven different flavors: melon, mint, cherry, caramel, bubble gum, cola lime, and pina colada.

Profluorid Varnish offers fast desensitization and fluoride release for immediate relief of hypersensitivity. I find fluoride varnish treatments to be underutilized in private practice, especially when it's no longer covered by insurance. Insurance limitations don't change the patient's risk or the science behind the product, so I recommend fluoride varnish to my patients who have more than one risk factor for tooth decay. This includes patients with active tooth decay during the last 12 months, patients who have gingival recession, patients who are undergoing both traditional orthodontics or aligner therapy, post scaling, and root planing therapies, and patients with hypersensitivity. I receive great patient acceptance of this treatment whether it's covered or not. **RDH**

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