

PERSONAL WELLNESS

Xylitol nasal spray: An effective tool in COVID-19 prevention

In the midst of a pandemic, dental professionals are searching for effective ways for patients to help control the spread before they ever step into the practice. Most already use prerinses, but xylitol nasal sprays are another excellent option.

Shirley Gutkowski, BSDH, RDH

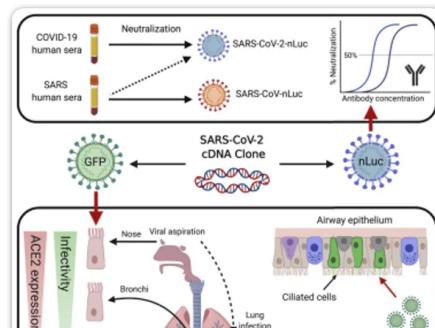
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Of all the things we do to protect staff and patients in dentistry, there's one inexpensive process that can reduce the viral load of the aerosols generated in our day-to-day practice. Anyone can also use this information about xylitol and microbes to protect themselves against SARS-CoV-2 and other diseases.

Arguably the only consistent thread in the COVID-19 pandemic is the fact that the virus lands in the oropharyngeal space through breathing. Improper breathing with the mouth open is likely the biggest culprit. Inhalation vacuums in the viral bits from the air and they take root in the **oropharynx**. The higher the concentration of viral bits, the worse the infection. Figure 1 describes the *sequelae*.¹



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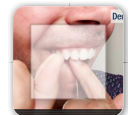


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rinse at the office, and there are several available. In dentistry we've come to know xylitol as a caries inhibitor, and we've often asked our patients to use a xylitol-containing gum multiple times a day to reduce early biofilm colonizers. We almost never think of the nasopharynx or oropharynx as a seeding or staging area for oral problems, but they are.

Studies have also shown the reduction of virus in the nose and sinus.² In particular, SARS-CoV-2 is affected by the ingredients in xylitol nasal spray.³ As we ask our patients to be more mindful before their appointments, we can ask them to disinfect their noses for a few days before an appointment.

Efficacy of Xlear Compounds as a Virucide Against SARS-CoV-2
(25-minute incubation with virus at 22 ± 2°C)

	Concentration	Incubation	Virus Titer ^a	LRV ^b
Xlear Nasal Spray	90%	25-min	<0.67	3.33
Xlear Rescue Spray	90%	25-min	<0.67	3.33
Chlorhexidine 0.03%	90%	25-min	<3.67	0.33
Ethanol	67.5%	25-min	<0.67	3.33
Virus Control	NA	25-min	4.0	NA

^a Log₁₀ CCID₅₀ of virus per mL. The assay lower limit of deviation is 0.67 Log₁₀ CCID₅₀/mL.
^b LRV (log reduction value) is the reduction of virus compared with that of the virus control.

Figure 2: Rates of Xlear xylitol nasal spray effectiveness against COVID-19 via commonsensemedicine.org.

Another study looking at xylitol in vitro against human respiratory syncytial virus (RSV) showed a substantial kill.⁴ Earlier rat/mice studies showed that ingested xylitol fights viral infections.⁴⁻⁵ The combination of at-home patient xylitol nasal spray usage a few days before a dental appointment and in-office infection control measures makes it easier to maintain the safety of patients and

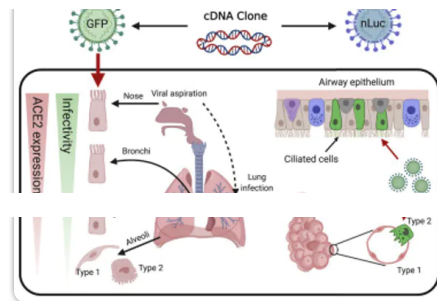


Figure 1: The sequelae of SARS-CoV-2.

stop.

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Editor's note: An earlier version of this article incorrectly stated that a 2016 study published in *Biological and Pharmaceutical Bulletin* showed substantial kill of SARS-CoV-2 by xylitol. That sentence has been updated to correctly read that the study examined hRSV, not SARS-CoV-2. The *DentistryIQ* team regrets the error.

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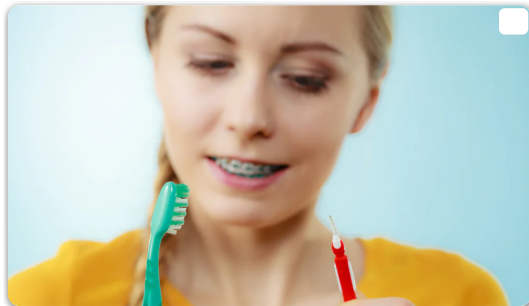
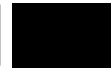
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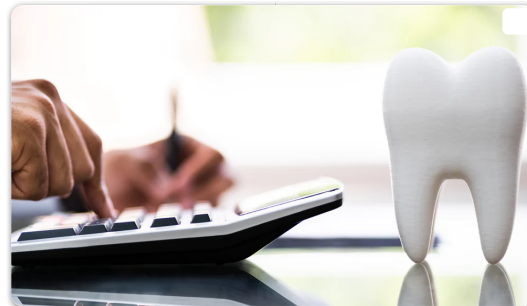


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