

# Use of **Cetylpyridinium chloride (CPC)** as a measure of prevention against **COVID-19**

Given the current global situation, the COVID-19 pandemic, it is important to protect ourselves by maintaining daily hygiene preventive measures and **reinforce daily oral hygiene.**

There are in vitro studies that show that the SARS-CoV-19 virus interacts with a molecule called ACE2 which is present on the surface of some of the cells in our body. As a result of the interaction between SARS-CoV-19 and this ACE2 receptor, the infectious process of the virus begins and ends up entering the cell, using the cell's replication machinery and generating thousands of viral particles that are released, killing the cell and spreading the infection. This receptor has so far been located in various organs such as the intestine, heart, kidneys and in a small population of type 2 alveolar cells in the lungs. A recent publication<sup>1</sup> shows the presence of this **receptor** in cells of the oral mucosa, highlighting a **high concentration thereof in the lingual epithelium** and lymphocytes of the oral mucosa<sup>1</sup>. Furthermore, a second study shows very **active replication of the virus in the tissues of the upper airways**, particularly in the pharynx during the first week after infection<sup>2</sup>.

These findings bring to light the fact that the oral cavity **must be considered a route of entry and of maintenance of the virus** in our body and a potentially high risk for the development of infectious disease.

Therefore, it is essential to maintain very **strict hygiene habits using oral hygiene products: toothpastes and mouthwashes containing Cetylpyridinium Chloride.**

**This antiseptic has been described to have virucidal capacity against Influenza virus.** In vitro experiments have shown the degradation of the lipid bilayer of the envelope of several strains of the Influenza virus treated with 0.005% CPC<sup>3</sup>. These results indicate that **CPC could be effective against other enveloped viruses** such as respiratory syncytial virus or coronaviruses.

That same year, a clinical study was conducted in which the group of subjects who used 0.10% CPC for 75 days in the form of spray showed to have a lower incidence of viral infections of the upper respiratory tract<sup>4</sup>. Therefore, it is suggested that **CPC could have a preventive effect on infections by viruses** such as Influenza, adenovirus, rhinovirus, respiratory syncytial virus, and coronavirus, among others.

Daily gargling and rinsing with products that contain CPC when performing daily hygiene (3 times a day), will help us protect ourselves, because a **good general health begins with good oral health.**

Furthermore, due to the greater density of ACE2 receptors on the tongue, lingual cleaning on a daily basis is essential, to remove the tongue coating, which contains bacteria, viruses and desquamated epithelial cells. **The tongue cleaner has been proven effective in reducing the microorganisms that build up on the tongue.**

## Bibliography:

1. Xu H, Zhong L, Deng J, Peng J, Dan H, Zeng X, Li T, Chen Q. High expression of ACE2 receptor of 2019-nCoV on the epithelial cells of oral mucosa. *Int J Oral Sci.* 2020 Feb 24;12(1):8
2. Wölfel R, Corman VM, Guggemos W, Seilmaier M, Zange S, Müller MA, Niemeyer D, Jones TC, Vollmar P, Rothe C, Hoelscher M, Bleicker T, Brünink S, Schneider J, Ehmann R, Zwirgmaier K, Rosten C, Wendtner C. Virological assessment of hospitalized patients with COVID-2019. *Nature* <https://doi.org/10.1038/s41586-020-2196-x> (2020).
3. Popkin DL, Zilka S, Dimaano M, Fujioka H, Rackley C, Salata R et al. Cetylpyridinium chloride (CPC) exhibits potent, rapid activity against influenza viruses in vitro and in vivo. *Pathogens and Immunity.* 2017;2(2):253-69.
4. Mukherjee PK, Esper F, Buchheit K, Arters K, Adkins I, Ghannoum MA et al. Randomized, double-blind, placebo-controlled clinical trial to assess the safety and effectiveness of a novel dual-action oral topical formulation against upper respiratory infections. *BMC Infect Dis.* 2017 Jan 14;17(1):74



**ORAL BIOFILM UNDER CONTROL**

**DENTAID**

Oral Health Experts

Carry out **strict oral hygiene daily**, as a **preventive hygiene measure.**