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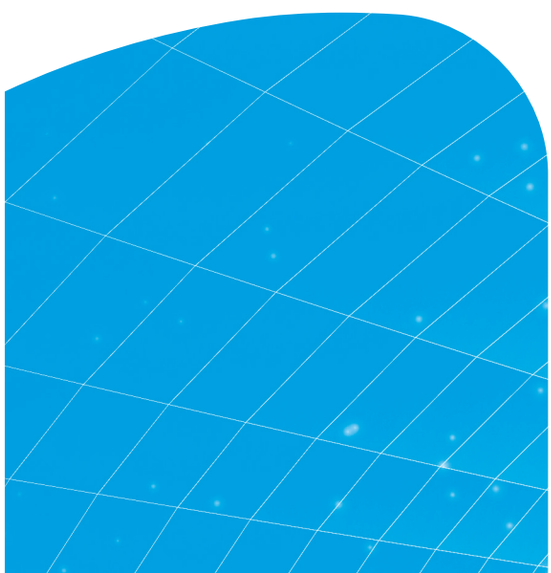
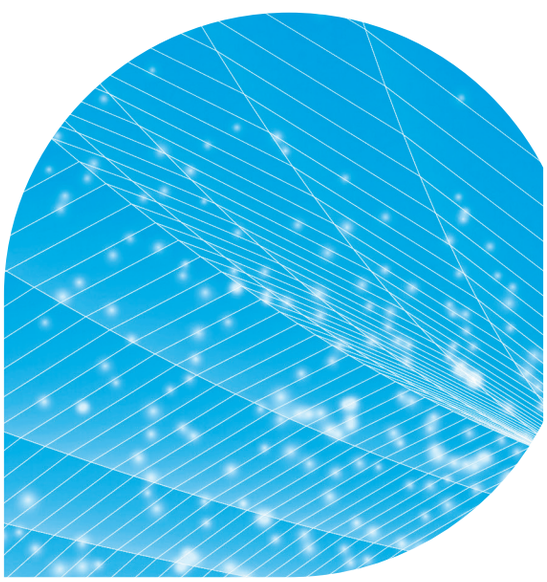
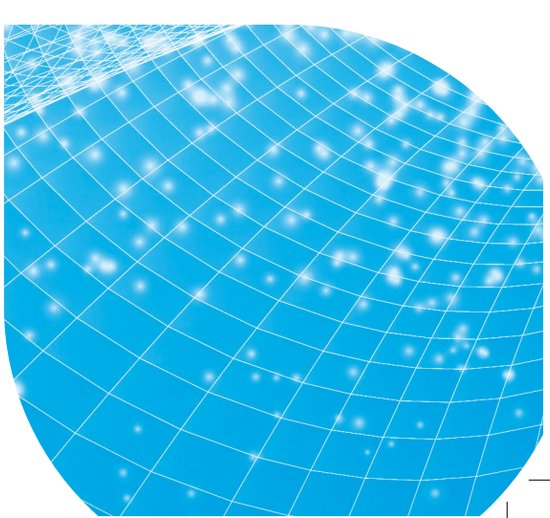




COVID-19

PHASE 2

May 2020



The Re-opening of Dental Practices - Curasept is here for you.

Pre-procedural mouthrinses and COVID-19 transmission.

Many recommendations and behavioural guidelines have been published in different countries by professional dental chambers and dental associations[1-6] to deal with the global pandemic due to the SARS-CoV-2 virus.

Covid-19 represents an infection of much more real concern to dentistry than to any other profession. In the report of the *US Bureau of Labour Statistics,* also covered intuitively and interactively by a publication in the New York Times[7], it is mentioned that dentistry presents the greatest risk of exposure of medical practitioners to an infection, as they are brought in much closer contact with patients and patients' saliva.

Great concern derives from the contaminated aerosol that dental procedures can generate. Of the various recommendations, one would appear to be of significant interest to the dental practitioner: the use of a mouthrinse as a possible safeguard to prevent cross infections, reduce aerosol contamination and inactivate the virus in the oral cavity.

Only four papers[10-13] so far provide, mostly uneven and conflicting, recommendations for a preprocedural mouth rinse to reduce the polymicrobial load present in patients' saliva suggesting, according to the papers: povidone-iodine 1%, **hydrogen peroxide 1%, chlorhexidine**, cetylpyridinium chloride (CPC) 0.1% and essential oils.

Chlorhexidine has a well-documented activity against viruses in general and specifically against enveloped viruses (HIV[18]). Moreover, the **review by Lim and Kam[19] shows that chlorhexidine has an excellent virucidal action, even against coronaviruses, at even lower concentrations than those tested in the two previously cited studies[16-17].**

Recently, in one of the first study performed on SARS-Cov-2, **Chin and collaborators[20] demonstrated,** in a laboratory test, the **virucidal efficacy of chlorhexidine at standard working concentration in a surface disinfectant formulation.** They concluded that SARS-CoV-2 can be highly stable in a favourable environment, but it is also susceptible to standard disinfection methods like chlorhexidine and other commonly used disinfectants.

Concluding: There is no definite proof that hydrogen peroxide 1% and povidone-iodine 1% are effective when used as mouth rinses against the SARS-CoV-2 virus, but their underlying oxidation mechanism can inactivate numerous Coronoviridae viruses from contaminated surfaces and areas. Moreover **Chlorhexidine** has certainly been proven to reduce the presence of microorganisms in the aerosol produced by dental procedures[21] and **has the highest substantivity and efficacy as a chemical plaque control agent[22]. Chlorhexidine can therefore also be a valid aid for preoperative rinses.**

These considerations suggest, as **some guidelines have proposed6, a double rinse with an oxidative agent followed by a broad-spectrum antiseptic.**

Since povidone-iodine 1% (an oxidative agent) has some contraindications (in the case of pregnancy, kidney failure, thyroid disease or concomitant drug therapies) and can be inactivated by other concomitant oral disinfectant[23], the most appropriate rinse procedure seems to be:

1. **First gargle with 1% hydrogen peroxide mouthwash for at least 15 seconds with a final rinse of 30 seconds.**
2. **Followed by a rinse with 0.20% chlorhexidine mouthrinse for at least 60 seconds and then gargle for at least 15 seconds[24].**

It is important to respect the duration of the rinses and especially the order given above to obtain the properties given by each antiseptic. It should also be highlighted that it is not, however, appropriate to combine the two products in a single rinse because, although chlorhexidine and hydrogen peroxide can coexist[25], no studies have still assessed a self-made mixture against SARS-CoV-2 virus or the possible reduction of their activity in such a mix.

This association would be able to provide a double mechanism of action, oxidative and broad spectrum antiseptic, providing an important reduction of the oral microbial load and a lower risk of environmental contamination through the aerosol produced by the rotating instruments.
Curasept, following international indications and literature, is now able to provide the dental all the necessary solutions for protection required by the protocols for the reopening of the activity in Phase 2.

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