



Cavex Oral Pre Rinse Evaluation of effectiveness.

GENERAL:

Mouthrinses are used in dentistry for a number of reasons: to freshen breath, to control tooth decay, to reduce plaque formation, to prevent or reduce gingivitis, or to deliver a combination of these effects. Given their antiseptic properties, however, some agents also can serve an important function in infection control. The use of a mouthrinse by the patient before dental procedures is based on a similar principle of reducing the number of oral microorganisms. This reduction also reduces the number of microorganisms that may escape a patient's mouth during dental care through aerosols, spatter, or direct contact.

HYDROGEN PEROXIDE:

Systematic reviews to evaluate the efficacy of preprocedural mouthrinses have been performed and the reduction of the number of microorganisms released by in the aerosol are compared. Mouthrinses with chlorhexidine, essential oils, and cetylpyridinium chloride reduced the number of microorganism with more then 60%. However, due to the fact that corona type viruses are vulnerable to oxidation, preprocedural mouthrinse containing oxidative agents such as 1% hydrogen peroxide are recommended. A preprocedural mouthrinse would be even more useful in cases when rubber dam cannot be used.

The effectiveness of hydrogen peroxide against microorganisms has been proven for many years. As a surface disinfectant or in vapor form it is used in food, veterinary and healthcare. Hydrogen peroxide works by producing destructive radicals that can attack essential cell components (i.e. membrane lipids, DNA, and other essential cell components) As the degradation products are water and oxygen we can consider an aqueous peroxide product as environmental friendly.

Special interest for studies on the effective disinfection of institutions are performed, measuring the virucidal efficacy of peroxide against respiratory and enteric viruses. Hydrogen peroxide vapor shows high efficacy against the enveloped RNA viruses avian flu virus (AIV), swine influenza virus (SwIV) and the transmissible gastroenteritis corona virus (TGEV, a SARS-CoV surrogate) A solution of 0.5% hydrogen peroxide demonstrated already bactericidal and virucidal activity in 1 minute.

DENTAL GUIDELINES:

Although there are several dental guidelines published, showing differences in the details, the general information is comparable. Regarding patients pre rinse the guidelines are giving clear directions. In order to obtain virucidal effectiveness against the Covid-19 virus the only option is to pre rinse with 1 – 2 % hydrogen peroxide for 30 – 60 seconds.



ADDITIONS:

It has been reported that the ACE2 (angiotensin-converting enzyme 2) present in the oral mucosa is the main host cell receptor of Covid-19 and plays a crucial role in the entry of virus. Besides, it is proven that viruses can remain viable and infectious in aerosols for hours and on surfaces up to days. Therefore, the oral cavity is a potentially high risk and needs appropriate cleaning. Water based solutions of hydrogen peroxide create a thin foam in the mouth. By additions of a bio-adhesive the viscosity and adhesion of the foam can be optimized resulting in adherence especially to the glands in the mucosa, the source where virus containing saliva is exposed.

Addition of erythritol will result in not only virucidal activity but also anti-bacterial effectiveness. A very small quantity of glycerin will overcome a dry mouth feeling and together with a touch of mint flavor it will increase the acceptance by patients to perform the full rinsing session.

STORAGE:

Under normal conditions, hydrogen peroxide is sufficient stable when properly stored, preferably refrigerated in dark containers.

SAFETY:

Peroxides decompose in water and oxygen while releasing active radicals. As a result such solution possess anti microbial and cleaning effects. High concentrations of peroxide and long contact times can be destructive for soft tissues and metals. 1,5 % hydrogen peroxide for oral pre procedural treatment with short contact times (30-60 seconds) can be considered as being acceptable when handled by dental professionals. Always avoid contact with eyes and do not swallow.

CONCLUSION:

Cavex Oral Pre Rinse is developed to be used as a pre procedural rinse before starting the actual dental procedure. The 1,5 % hydrogen peroxide works as a bleaching agent, cleaning the oral cavity and reducing the total amount of microorganism. The addition of an bio adhesive in order to form the ideal foam condition and erythritol with anti bacterial properties will strengthen the cleaning effect. Small quantity of glycerin against dry mouth and slight mint flavor optimizes the patient product acceptance.

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