

Preprocedural Mouth Rinses

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Preprocedural Mouth Rinses and Contamination from Aerosols and Spatter (Updated 3/08)

Question: Is a preprocedural mouth rinse recommended to reduce contamination from aerosols and spatter?

Answer: Preprocedural mouth rinsing is the use of an antimicrobial mouth rinse by the patient before a dental procedure. Its objective is to reduce the number of oral microorganisms that may be released as an aerosol or spatter from a patient's mouth during dental care that subsequently contaminate equipment, operatory surfaces, and dental healthcare personnel.

A visible spray is created during the use of rotary dental and surgical instruments (e.g., handpieces, ultrasonic scalers) and air-water syringes. This spray contains primarily a large-particle spatter of water, saliva, blood, microorganisms, and other debris. Spatter travels only a short distance and settles out quickly, landing either on the floor, nearby equipment and operatory surfaces, the dental healthcare personnel providing care, or the patient. The spray may also contain some aerosol. Aerosols take considerable energy to generate, consist of particles less than 10 microns in diameter, and are not typically visible to the naked eye. Aerosols can remain airborne for extended periods of time and may be inhaled; they should not be confused with the large-particle spatter that makes up the bulk of the spray from handpieces and ultrasonic scalers. Appropriate use of dental dams, high-velocity air evacuation, and proper patient positioning should minimize the formation of droplets, spatter, and aerosols during patient treatment.



To date, no scientific evidence supports that preprocedural mouth rinsing actually prevents disease transmission in the dental operatory, but studies have shown that a preprocedural rinse with a product containing an antimicrobial agent (e.g., chlorhexidine gluconate, essential oils, povidone iodine) can reduce the level of oral microorganisms generated when performing routine dental procedures with rotary instruments. Preprocedural mouth rinses may be most beneficial before a prophylaxis using a prophylaxis cup or ultrasonic scaler since rubber dams cannot be used to minimize aerosol and spatter generation, and unless the provider has an assistant, high-volume evacuation is not commonly used.

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Preprocedural Mouth Rinses and Dental Procedure-Induced Bacteremias (Updated 3/08)

Question: Is a preprocedural mouth rinse recommended to reduce dental procedure-induced bacteremias?

Answer: The science is unclear concerning the incidence and nature of bacteremias from oral procedures, the relationship of these bacteremias to disease, and the preventive benefit of antimicrobial rinses. In 1997, the American Heart Association (AHA) recommendations regarding the prevention of bacterial endocarditis following dental treatment included comment addressing preprocedural mouth rinsing with an antimicrobial solution. This procedure was advocated as a potential method for reducing the incidence or magnitude of bacteremia in patients at risk of developing endocarditis following bacteremia-inducing dental procedures. However, the most recent AHA infective endocarditis recommendations published in 2007, reviewed the scientific evidence relating to endocarditis prophylaxis and concluded that the "results are contradictory with regard to the efficacy of the use of topical antiseptics in reducing the frequency of bacteremia associated with dental procedures, but the

preponderance of evidence suggests that there is no clear benefit.” The authors also concluded that “it is unlikely that topical antiseptics are effective to significantly reduce the frequency, magnitude, and duration of bacteremia associated with a dental procedure.”

Selected References and Additional Resources

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Adapted from: www.cdc.gov/oralhealth/infectioncontrol/faq/preprocedural_mouthrinse.htm.

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