



### **Preprocedural Mouth Rinses**

#### **What is the purpose of a preprocedural mouth rinse?**

Antimicrobial mouth rinses used by patients before a dental procedure are intended to reduce the number of microorganisms that might be released from the patient's mouth in the form of aerosols or spatter that subsequently can contaminate equipment, operatory surfaces, and dental health-care personnel (DHCP). In addition, preprocedural rinsing can decrease the number of microorganisms introduced in the patient's bloodstream during invasive dental procedures.

#### **Does using a preprocedural mouth rinse reduce the potential for clinical infections?**



No scientific evidence indicates that preprocedural mouth rinsing prevents clinical infections among DHCP or patients, but studies have demonstrated that a preprocedural rinse with an antimicrobial product (e.g., chlorhexidine gluconate, essential oils, or povidone-iodine) can reduce the level of oral microorganisms for up to five hours in aerosols and spatter generated during routine dental procedures with rotary instruments (e.g., dental handpieces or ultrasonic scalers). Non-antimicrobial mouth rinses have little infection-control benefit because they allow oral

microorganisms to return to their original levels before most dental procedures are complete.

Preprocedural mouth rinses can be most beneficial before a procedure that requires using a prophylaxis cup or ultrasonic scaler because 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.

#### **Is a preprocedural mouth rinse recommended to reduce dental procedure-induced bacteremias?**

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."

#### **Aerosol vs. Spatter**

**Aerosol:** particles of respirable size (<10 µm) generated by both humans and environmental sources that can remain viable and airborne for extended periods in the indoor environment; commonly generated in dentistry during use of handpieces, ultrasonic scalers, and air/water syringes.

**Spatter:** visible drops of liquid or body fluid that are expelled forcibly into the air and settle out quickly, as distinguished from particles of an aerosol, which remain airborne indefinitely.

#### **In A Nutshell: Preprocedural Mouth Rinses**

The use of preprocedural antimicrobial mouth rinses (e.g., chlorhexidine gluconate, essential oils, or povidone-iodine) is optional, but should be considered to reduce the level of oral microorganisms in aerosols and spatter generated during routine dental procedures. The scientific evidence is inconclusive that using these rinses prevents clinical infections among DHCP or patients.

*USAF Guidelines for Infection Control in Dentistry*

### **Selected References (Updated October 2010)**

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