Reducing Bacteria Using Preprocedural Mouth Rinses (6/10)


The authors evaluated the effects of a commercial mouthrinse containing cetylpyridinium chloride (CPC), used before a dental prophylaxis, on the levels and composition of viable bacteria in oral spatter. Sixty individuals receiving an oral prophylaxis with an ultrasonic scaler were randomly assigned to one of four groups using a preprocedural rinse solution containing 1) 0.05% CPC; 2) 0.12% Chlorhexidine Gluconate (CHX); 3) water; or a fourth group that did not rinse. Airborne microorganisms were collected on blood agar plates. The composition of the spatter was analyzed for 39 oral bacterial species using checkerboard DNA-DNA hybridization. CPC and CHX were equally effective in lowering spatter bacteria and performed better than the water and no rinse groups (p < 0.05, Kruskal-Wallis test). The composition of the spatter from the control groups showed higher proportions (p < 0.05, Kruskal-Wallis test) of Fusobacterium species and lower proportions of Capnocytophaga species when compared with the CPC and CHX groups. This is relevant since Fusobacterium species may be implicated in the etiology of several systemic infections (e.g., ophthalmic and respiratory infections). A commercial mouthrinse with 0.05% CPC, when used as a preprocedural mouthrinse, was equally effective as CHX in reducing the levels of spatter bacteria generated during ultrasonic scaling procedures. Because of its strong antibacterial effect and fewer side-effects, 0.05% CPC may represent a good alternative to CHX as an in-office pre-procedural mouthrinse to help decrease the level of contamination in spatter.

DECS Comment: Antimicrobial mouth rinses used by patients before a dental procedure are intended to reduce the number of microorganisms the patient might release in the form of aerosols or spatter that then can contaminate dental health-care personnel (DHCP) and environmental surfaces in the dental operatory. No scientific evidence indicates that preprocedural mouth rinsing prevents clinical infections among DHCP or patients. The use of antimicrobial rinses before dental appointments has been well documented to reduce the concentrations of microorganisms that can be released in aerosols or spatter generated during routine dental procedures with rotary instruments such as dental handpieces or ultrasonic scalers. As such, 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.

In A Nutshell: USAF Guidelines for Infection Control in Dentistry
The use of preprocedural antimicrobial mouth rinses 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.

Selected References
- Litsky BY, Mascis JD, Litsky W. Use of an antimicrobial mouthwash to minimize the bacterial aerosol contamination


