

REFERENCE

Ghoneim A, Proaño D, Kaur H, Singhal S. Aerosol-generating procedures and associated control/mitigation measures: Position paper from the Canadian Dental Hygienists Association and the American Dental Hygienists' Association. *Can J Dent Hyg.* 2024;58(1):48–63.

Supplementary Table S2. Preprocedural mouthrinse study characteristics

Author(s), date, country	Study design	Number of participants	Intervention(s) and protocol	Comparator(s)	Type and duration of AGP	Outcome measure(s)	Summary of findings
Anjum et al. (2019) ³⁵ Pakistan	Quasi experimental	70	0.2% CHX Protocol: NA	5% green tea mouthrinse	Ultrasonic scaling for 30 min	CFU	Significant reduction of CFU occurred with preprocedural rinsing with both mouthrinses as compared to non-rinsing before ultrasonic scaling and 0.2% CHX found to be superior to 5% green tea in reducing bacterial load in aerosol samples.
Burgos-Ramos et al. (2020) ³⁶ Spain	Experimental	NA	1% HP Rinse for 1 min, 5 min to 10 min before the treatment	No rinse	NA	Viral loads (COVID-19 detected in exhaled air)	The use of H ₂ O ₂ solution (1%) for 1 min for mouth rinsing drastically reduced the possibility of coronavirus spread during aerosol-generating dental procedures.
Choi et al. (2018) ³⁷ Korea	Experimental study	30	0.1% CHX solution	No gargle	Prophylactic scaling Duration: NA	CFU collected from the	There was a significant difference in the number of bacteria between the 2 experimental groups (with and without CHX gargling). In the group without any

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			Gargle for 30 sec			operator's face shield	treatment before scaling, the average number of bacteria was 52.5 CFU/mL, but in the group where CHX gargling was applied, the average number of bacteria was 4.6 CFU/mL, which was remarkably small.
Das et al. (2022) ³⁸ India	Randomized controlled trial	80	0.2% CHX	No rinse	Ultrasonic scaling for 30 min	Mean microbial count in various locations	Regardless of the position of the agar plates, the highest number of microbial colonies was seen in no-rinse group, followed by water, herbal mouthrinse, and 0.2% CHX gluconate. The lowest no of microbial colonies was seen in Group 3, where preprocedural mouthrinse was CHX gluconate (0.2%).
			Herbal mouthwash				
			Water				
			Rinse 10 mL for 30 sec				
Gund et al. (2022) ³⁹ Germany	Prospective randomized clinical trial	306	0.1% CHX	Water No rinse	High-speed restorative preparations	Bacteria contamination on the operator's face mask	CHX led to a statistically significant reduction in bacterial contamination of the surgical mask (mean: 24 CFU) in comparison with water (mean: 47 CFU) and non-rinsing (mean: 80 CFU).

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			Rinse 15 mL for 60 sec		Supra- and subgingival ultrasonic application Duration: 60 min to 90 min		
Nagraj et al. (2022) ³² NA	Cochrane systematic review	NA	–	–	–	Incidence of infection in oral health care providers	None of the studies measured our primary outcome of the incidence of infection in oral health care providers.
Marui et al. (2019) ³³ NA	Systematic review	15 to 60	<ul style="list-style-type: none"> • CPC • EO • 0.12% CHX • 0.05% CPC • Tempered and non-tempered 0.2% CHX • Tea tree oil • 0.075% CPC+0.28% zinc lactate+ 0.05% sodium fluoride (NaF) 	<ul style="list-style-type: none"> • 5% Hydroalcohol • No rinse • Water • Sterile water • Distilled water 	Prophylactic scaling, air polishing Duration: range 3 min to 10 min	CFU and anaerobic bacterial cultures	Pooled estimates suggested that, when compared with a control mouthrinse, there was significant percentage reduction in the number of CFU after use of CHX and use of EO mouthrinse. The use of an herbal mouthrinse did not result in a significant reduction in the number of CFU compared with the control mouthrinse. Overall, a preprocedural mouthrinse significantly reduced the number of CFU (moderate quality of evidence).

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Mohd-Said et al. (2021) ³⁴ NA	Systematic review	18 to 120	<ul style="list-style-type: none"> • 0.12% or 0.2% CHX • Herbal EO • CPC • 1% PI • Chlorine dioxide (ClO₂) • Aloe vera • HE • Tea tree oil • 94.5% Aloe vera extract • 0.075% CPC+ 0.28% Zn lactate +0.05% NaF • 0.12% CHX+ 10% alcohol • Tempered and non-tempered 0.2% CHX 	<ul style="list-style-type: none"> • Saline • Sterile water, distilled water • Hydroalcohol • No rinse 	Ultrasonic scaling Polishing Duration: range 3 min to 30 min	Percentage reduction in CFU	Among studies comparing CHX with other agents (71.4%, 15/21), the effectiveness of CHX over other agents was evident, with more than half of the studies (7/15) reporting a greater than 70% reduction in CFU. Preprocedural rinsing for 30 sec to 2 min with selected antimicrobial solutions compared to water or no rinsing was found to effectively reduce aerosol contamination in periodontal prophylaxis on dental patients. There is evidence that chlorhexidine (either 0.12% or 0.2%) is an effective antimicrobial solution for this purpose.
Ramya et al. (2022) ⁴⁰ India	Clinical trial	30	0.12% CHX Rinse with 10 mL to 20 mL for 30 sec to 2 min, 2 min to 40 min before procedure	<ul style="list-style-type: none"> • PI • No rinse 	Ultrasonic scaling Duration: 30 min	CFU	The preprocedural mouthrinses significantly reduced the bacterial CFUs in aerosol samples. When utilised preprocedurally, chlorhexidine rinses

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			Rinse with 15 mL for 30 sec				were found to be superior to Povidone iodine in decreasing aerosol bacteria.
Rao et al. (2015) ⁴¹ India	Controlled trial	30	Undiluted 0.2% CHX Rinse with 10 mL 10 min before treatment	No rinse	Ultrasonic scaling Duration: 30 min	CFU	The highest number of colonies was found on blood agar plate positioned at the patient's chest area followed by the doctors. The results showed that CFU in group II were significantly reduced when compared to group I with the <i>p</i> value < 0.001, which was statistically significant.
Sadun et al. (2020) ⁴² Malaysia	Randomized controlled trial	30	EO Rinse 20 mL for 1 min	Distilled water	Ultrasonic scaling Duration: NA	Microbial load (CFU)	Based on the mean CFU counts, patients prerinsed using Listerine showed significantly reduced presence of microbial contaminants compared to those prerinsed using the control mouthwash.
Takenaka et al. (2022) ⁴³ Japan	Crossover randomized clinical trial	10	<ul style="list-style-type: none"> 0.5% PI EO 	<ul style="list-style-type: none"> Distilled water No rinse 	Provider scaling and polishing for 10 min	Bacterial count	Combining an eHVE with mouth rinsing (using either 0.5% PI or EO) was found to reduce contamination from aerosols produced by an ultrasonic scaler. Although the eHVE was observed to

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			Rinse for 30 sec				prevent most bacterial contamination when positioned relatively close to the patient's mouth, preprocedural mouth rinsing provided additional benefits in such situations where the eHVE must be positioned further away, depending on the dental procedure performed.
Varghese et al. (2021) ⁴⁴ India	Randomized controlled trial	20	<ul style="list-style-type: none"> • Neem • 0.2% CHX • Triphala 	Water	Ultrasonic scaling Duration: 10 min	CFU	The effectiveness of preprocedural rinsing with herbal rinse was compared with 0.2% CHX which was considered as a gold standard. The outcomes of this study revealed that 10 mL of Neem mouthrinse when used 10 min prior to ultrasonic scaling is more effective in decreasing the aerosol infection as compared to the Triphala mouthrinse and commercially available 0.2% CHX mouthrinse.
			Rinse 10 mL for 30 sec 10 min before scaling				
Warad and Bhatagunaki (2020) ⁴⁵ India	Experimental study	60	<ul style="list-style-type: none"> • 0.2% CHX • 0.1% octenidine 	Distilled water	Ultrasonic scaling Duration: NA	CFU	0.1% octenidine was found to be most effective preprocedural mouthrinse in reducing the bacterial load in the aerosol produced during ultrasonic scaling

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			Rinse 20 mL for 30 sec				followed by 0.2% CHX and distilled water.
Yadav et al. (2018) ⁴⁶ India	Randomized controlled trial	40	<ul style="list-style-type: none"> • CHX • HE • EO 	Distilled water	Ultrasonic scaling Duration: NA	CFU	In the study, 0.2% CHX was found to be most effective preprocedural mouthrinse in reducing the bacterial load in the aerosol produced during ultrasonic scaling followed by essential oil and herbal mouthrinse respectively.
			Rinse with 10 mL of CHX, 15 mL of HE and EO for 60 sec, 10 min before scaling				

CFU: colony forming units; CHX: chlorhexidine; CPC: cetylpyridinium chloride; eHVE: extraoral high-volume evacuator; EO: essential oil; HE: herbal extracts; NA: information not available in articles; NaF: sodium fluoride; PI: povidone iodine