



**Title** **Rapid Assessment: Professional Dental Hygiene - Effectiveness and Safety of Professional Dental Hygiene for Caries Prophylaxis and Periodontal Therapy**

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## Aim

To determine: 1) the efficacy and safety of professional dental hygiene interventions in preventing and treating periodontal diseases, reducing inflammation and relieving pain, maintaining oral stability, and avoiding tooth loss; 2) the efficacy and safety of nonsurgical periodontal treatment compared to surgical periodontal treatment; and 3) if it makes a difference if dentists, dental hygienists, or dental assistants perform dental hygiene measures.

## Conclusions and results

Two systematic reviews and one RCT met the inclusion criteria for professional dental hygiene as a preventive measure, but yielded weak evidence. The systematic reviews and meta-analyses included for professional dental hygiene as nonsurgical periodontal therapy and supportive periodontal care have a high risk of bias. Tentatively, scaling and root planing can stop progression in patients with periodontitis, according to one RCT. Outcomes were mainly surrogate parameters. Four publications assessed nonsurgical versus surgical periodontal treatment. They showed that both interventions are more effective the deeper the initial periodontal pockets, but nonsurgical treatment performs better with shallow to moderate initial pockets. Seven controlled trials compared the performance of different professionals carrying out dental hygiene interventions. Most of these studies focus on a specific intervention, and all have strong formal limitations.

## Recommendations

Based on the available data, supragingival and subgingival mechanical plaque removal can be recommended as nonsurgical periodontal treatment and as long-term periodontal maintenance care as well as in secondary and tertiary prevention of periodontal disease. Recommendation should be based on an appropriate systematic periodontal inspection and a periodontal diagnosis to assess individual periodontal needs.

## Methods

A systematic literature search in EMBASE, MEDLINE, DARE, NHS-EED, CDSR, and CCRCT yielded 431 hits. Selection involved a 2-step selection process according to the PICO questions, and was completed by hand searching. 18 publications were included to answer the 3 research questions. Only systematic reviews, meta-analyses, and RCTs were used to assess the effectiveness and safety of professional dental hygiene as prophylaxis and as periodontal therapy vs. no therapy and vs. surgical periodontal therapy. Controlled trials were also included to assess the effectiveness and safety of dental hygiene interventions performed by different health care professionals.

## Further research/reviews required

Given the lack of evidence on preventive effects of routine supragingival scaling and polishing in healthy populations, more evidence is needed to show which measure is most effective in order to prevent the high prevalence of periodontal diseases in Austria. Long-term studies on preventive effects and safety, with large samples and with different professional providers, could be conducted. The findings would be most relevant to the healthcare system and society in public health and health economic contexts.