

## REVIEW ARTICLE

# Tooth Polishing: An Overview

Deepan Chandra<sup>1</sup>, Soumak Bagchi<sup>2</sup>

## ABSTRACT

Teeth polishing is a procedure carried out as a part of oral prophylaxis in most dental practices. It is an act of smoothening the tooth surfaces to make it glossy and lustrous. Repeated polishing processes have iatrogenic effects occurring depending on increasing the lifetime of the teeth. Careful selection of patients upon whom teeth polishing will be applicable, will reduce the amount of complications and adverse effects.

**Keywords:** Abrasives, Mechanical aids, Polishing, Tooth staining.

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## INTRODUCTION

Teeth polishing are a procedure carried out as a part of oral prophylaxis in most dental practices. It is an act of smoothening the tooth surfaces to make it glossy and lustrous. Although the term polishing has been used to describe the professional removal of soft deposits and stains from the tooth surfaces, in reality, this includes both cleaning and polishing.<sup>[1]</sup> During polishing, plaque, biofilm, stains, and acquired pellicle are removed. It is important to understand the patients' expectations when considering tooth polishing. They simply like the look and feel of polished teeth. Taste and smell are the next important factors from the patient's point of view. Patients prefer this procedure over debridement with instruments for many reasons. An important factor is that patients respond positively to the smooth and clean feel that polishing produces. Furthermore, it is less painful and stressful than scaling and easier for the patient to understand and tolerate. Polishing produces tangible benefits, which the patients can see and feel. Although the history of tooth polishing was mentioned

in the Roman and Greek writings, it was only with Pierre Fauchard, the Father of Modern Dentistry, who introduced it for removal of dental stains with the use of finely ground coral, egg shells, ginger, or salt.<sup>[2]</sup> The techniques and modalities for tooth polishing have evolved over the years. Dr. Fones, the Founder of Dental Hygiene, started training his auxiliaries to provide coronal tooth polishing in the last century. It was observed that stains were not the etiologic factor for any destructive process, and hence, removal of stains was for esthetic, not for health reason. Hence, polishing was then used as a selective process by Wilkins.<sup>[3]</sup> Several terms are being used in relation to the practice of cleansing and polishing teeth. However, when oral health professionals use the word "polishing," they are typically referring to the dual process known as "cleaning" and "polishing." The American Dental Hygienists Association position paper on polishing procedures sufficiently distinguishes between these closely related terms defining "cleansing" as "the ability to remove debris and extraneous matter from the teeth," and "polishing" as "the implementation of making the tooth surface smooth and lustrous." The American Academy of Periodontology defines tooth polishing (in relation to oral prophylaxis) as "the removal of plaque, calculus, and stains from the exposed and unexposed surfaces of the teeth by scaling and polishing as a preventive measure for the control of local irritational factors."<sup>[4-7]</sup>

## ABRASIVE AGENTS

The purpose of the abrasive agent is to clean and to make the tooth surfaces smooth. The abrasive agents present in the polishing paste are usually the same as those in dentifrices. However, the major difference being the particle size of the abrasive; where the size is more in professional prophylaxis pastes as compared to dentifrices. Prophylaxis polishing pastes available in the market usually combine abrasives with a binder, humectants, coloring agent, preservative, and flavoring agent.<sup>[3]</sup> They are available in varying sizes of abrasive particles, ranging from coarse, and medium to fine. Harder, rough-shaped, large, particle size compounds produce more abrasive action than particles that are soft, smooth-shaped, and small. The most commonly used abrasives in polishing pastes are flour of pumice and calcium carbonate. Other abrasive particles used in

<sup>1</sup>Reader, <sup>2</sup>Consultant Periodontist

<sup>1</sup>Department of Periodontics, Awadh Dental College and Hospital, Jamshedpur, Jharkhand, India

<sup>2</sup>Howrah, West Bengal, India

**Corresponding Author:** Dr. Deepan Chandra, Reader, Department of Periodontics, Awadh Dental College and Hospital, Jamshedpur, Jharkhand, India. e-mail: deepan.chandra@gmail.com

commercial prophylaxis polishing pastes include aluminum oxide (alumina), silicon carbide, aluminum silicate, silicon dioxide, carbide compounds, garnet, feldspar, zirconium silicate, zirconium oxide, boron, and calcium carbonate. Others include the emery, silica, and perlite. A single polishing agent cannot be used for all surfaces such as tooth enamel, root surfaces, or restorations, as they all have different hardness values. A polishing agent should be selected on the basis of their hardness in such a way that the hardness of the polishing agent should be less than that of the surface to be polished. However, many of the abrasives used in prophylaxis pastes are 10 times (or more) harder than the surfaces they are used to polish.<sup>[7-9]</sup>

## MECHANICAL DEVICES FOR POLISHING

Different polishers are available: Manual and engine driven. The manual polishers are hand-held devices whereas the engine driven uses handpieces to do the polishing. The most commonly used method of tooth polishing is with the use of a mechanical device along with the polishing agent. Many polishers available are as follows:

### Porte Polisher

It is a hand-held device with an orange-wood point. This instrument can be used on various aspects of teeth. It rubs the abrasive agent against the tooth surface with a wedge-shaped, tapered, or pointed wooden point.<sup>[1]</sup>

### Polishing Strips

They are a good option for interproximal areas and line angles. However, they are highly abrasive. Care has to be taken to avoid cutting or abrading the surrounding soft tissues during polishing.<sup>[10]</sup>

### Engine-driven Polishers

These are widely used among dental professionals and dental hygienists for their efficiency and efficacy. These polishers are attached to the appropriate handpiece or prophylaxis angle, which has either straight or contra-angled shanks. They can be either disposable or reusable after sterilization. A rubber cup or brush is attached to the prophylaxis angle. The handpiece should always be used at a steady slow pace of 2500–3000 rpm.<sup>[11]</sup>

### Air-powder Polisher

Nowadays, air-powder polishing devices have overcome conventional rubber cup polishing paste systems

for supragingival plaque removal as it reaches surfaces that are inaccessible to a rotary device.<sup>[12,13]</sup>

## CONCLUSION

Tooth polishing used to be a standard part of a dental cleaning appointment. The dentists used to smoothen teeth so that plaque and bacteria which cause gingivitis, periodontitis, or cavities do not stick to the tooth easily. Furthermore, polishing removes the outer layer of tooth enamel, which takes a period of 3 months to rebuild the fluoride-rich layer. Hence, selective polishing is recommended. Each patient should be assessed individually for polishing of teeth.

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