

A close-up photograph of a dentist wearing a white lab coat and a light blue surgical mask. The dentist is using a blue air polisher tool on a patient's teeth. The patient is lying back with their mouth open. The background is a soft, out-of-focus clinical setting.

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Comprehensive Treatment with Air Polishing

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The use of air polishers in periodontal applications is becoming more common and has expanded to include the removal of subgingival biofilm. Previously, nozzles designed for supragingival treatment were sometimes used in shallow periodontal pockets, but nozzles designed specifically for subgingival treatment are now available.

When used by professionals correctly and in accordance with the instructions, air polishers together with polishing powders are an effective form of treatment that causes less damage to soft and hard tissues. Air polishers are suitable for prophylactic and maintenance care.

Use of air polishers in supra- and subgingival treatment:

In supragingival polishing, the air polisher dissolves and removes biofilm. It is also suitable for the effective removal of tobacco stains, for example. The powders used in air polishing are safe for tooth surfaces and soft tissues when the right kind of powder particle is selected and the nozzle is used correctly.

Powders used in supragingival treatment include sodium bicarbonates, calcium carbonates and calcium phosphosilicates. The sodium bicarbonate powders or “sodas” have been used for a long time as effective stain removers for enamel. They often include additives, such as flavours to neutralize their salty taste. Calcium carbonate is a naturally sweet-tasting powder consisting of spherical, pearl-like particles. It is a safe and gentle powder for the removal of biofilm and slight discolouration.

Air polishing is suitable for subgingival treatment if a finer, gentler powder containing glycine particles is used (particle size approximately 25 µm) along with a specially designed nozzle for subgingival cleaning. The small glycine powder particles are also suitable for removing biofilm on implants in maintenance care. Periodontal pockets more than 5 mm deep can be treated with subgingival nozzles.

Air polishers can also be used in other dentistry applications besides periodontal care. In dental restoration, for example, tooth surfaces can be cleaned prior to bonding.

Usage tips:

An air polisher functions through the combined action of powder particles, water pressure and compressed air. Its effectiveness depends on many factors, such as the level of water/air pressure, the ratio of powder to water, and the size, shape and hardness of the powder particles. Working distance and the direction of the powder spray also affect how much tooth abrasion is caused by the air polishing.

In supragingival polishing, the nozzle is moved back and forth along the tooth surface while also making a circular motion. The powder spray is directed away from the gingiva while using a powder, such as sodium bicarbonate or calcium carbonate. The nozzle is pointed obliquely at the tooth surface from a distance of about two millimetres.

In subgingival treatment, the nozzle is inserted into the periodontal pocket and moved vertically or diagonally until the biofilm has been removed. Subgingival nozzles have two outlet holes for the powder spray; one hole is pointed at the tooth surface and the other obliquely against the gingival surface. The subgingival nozzles are designed to produce low air pressure in the periodontal pocket.



LM-ProPower air polishing concept:

The LM-ProPower air polishing system includes both supra- and subgingival nozzles and a selection of powders. All of the nozzles can be autoclaved. There are two options for supragingival nozzle design: the universal LM-Supra A and the hooked LM-Supra B.

The LM-Sub A subgingival nozzle is designed to be suitable for all tooth surfaces without needing to switch to a different nozzle in the middle of a procedure. The nozzle features a laser-marked scale for easy measurement of working depth. The nozzle fits the same handpiece as the supragingival nozzles.

LM-Sodium B powders are available in five flavours: lemon, black raspberry, cherry, spearmint and neutral. Xylitol has been added to these powders as a natural sweetener. LM-Calcium C and LM-Glycine powders are available in the neutral flavour.

Detachable and exchangeable LM-ErgoGrip silicone sleeves for the LM-ProPower handpieces are available in various colours. Handpieces can be colour-coded for supra- versus subgingival treatment, for example.

