



## A PREDILECTION FOR POLISHING

**Patient expectations for an attractive smile must be balanced by managing stain with the proper techniques and products.**

By Gwen Essex, RDH, BS, MS

From the patient's perspective, stain removal is often the most important part of the dental hygiene appointment, putting the hygienist in an awkward position. Many patients do not feel their teeth are clean unless they receive coronal polishing. While selective polishing is an option supported by the American Dental Hygienists' Association,<sup>1</sup> satisfying patients is also important. Patients with esthetic restorations and surface stain add another facet to this dilemma. Research indicates that esthetic restorations should not be polished<sup>2</sup> but patients do desire an attractive smile.

### Identifying the Stain

Stain removal can be approached with different methods. The first step is to identify the type of stain present. Common extrinsic stains are brown in color—resulting from food, beverages, tobacco, or chlorhexidine—and are easily removed by light scaling or selective polishing.

Black-line stain has a very different origin and requires an alternate method of removal. This stain is calculus-like and forms along the gingival third of the tooth near the gingival margin. Black line stain is seen in patients of all ages, yet is more common in women and in patients with good oral hygiene. There appears to be a natural tendency to forming black line stain as it often reforms despite regular self-care. The quantity of black line stain may be less when plaque biofilm is meticulously removed.<sup>3</sup> Black line stain is firmly attached to the teeth and often requires moderate scaling to be removed.

Stains acquired due to poor oral hygiene are yellow or orange and they may be removed with tooth brushing or light polishing. The last category is green stain, which is found in children with very poor oral hygiene and may be the result of chromogenic bacteria, although the literature is inconclusive.<sup>4</sup> This stain presents as demineralized enamel and is contraindicated for direct scaling to prevent any further loss of tooth structure.

### Patient Education

Once the origin of the coronal stain is identified, the patient should be advised on how to avoid future staining. Patients want an esthetic smile so this provides an opportunity to emphasize the negative behaviors that cause staining, ie, poor oral hygiene, tobacco use, etc.

The use of traditional prophylaxis paste during polishing is the most common technique. However, for patients without coronal staining, the educational discussion should focus on selective polishing and the rationale for avoiding abrasive polishing agents.<sup>1</sup> Recognizing a patient's desire for polishing is also important, as the patient-dental hygienist relationship will suffer if patients feel dissatisfied. In order to avoid unnecessary polishing procedures and satisfy patients' preference for polishing, other methods of stain removal may be used.

### Techniques and Products

Hand instrumentation, ultrasonics, air polishing, and rubber cup polishing are all effective at removing stain. While hand instrumentation can remove stain, the process is often time-consuming and may not be the most efficacious use of the hygiene appointment. However, ultrasonic scalers are effective in removing stains and are far less fatiguing for the clinician.

Additionally, air polishing, which uses a slurry delivered under pressure, is very effective at stain removal.<sup>5,6</sup> It can also be up to three times faster than hand instrumentation.<sup>5</sup> However, care must be exercised to prevent damage to exposed dentin.<sup>6,7</sup> While air polishing is the least damaging to intact enamel,<sup>8</sup> it can cause significant loss of tooth structure when applied to root surfaces.<sup>6,7</sup>

In the past, air polishing was contraindicated for sodium restricted patients. New products have eliminated that problem. JetFresh™\* is composed of aluminum trihydroxide. PROPHYpearls®\*\* uses calcium carbonate. Smaller, more portable air polishing handpieces compatible with standard high speed handpiece attachments are available that reduce the time necessary to set up the equipment and the space needed for the air polishing unit. While air polishing may leave gingival tissues slightly abraded, research has found that it is insignificant, and comparable to the trauma induced by traditional rubber cup polishing.<sup>9</sup> However, this potential problem can be minimized by keeping the polishing handpiece consistently directed away from the gingiva.<sup>10</sup>

Several new polishing agents are on the market that can increase the efficacy of the traditional rubber cup. NUPRO® Shimmer™\* is a nonabrasive cleaning agent containing aluminum oxide that is safely used on stain-free tooth surfaces and composite restorations. Pro-Care®\*\*\* provides gentle cleansing of both natural tooth surfaces and esthetic restorations without grit. CPR™ Cosmetic Polishing Restorative\*\*\*\* is designed for cosmetic prophylaxis on composite, porcelain, veneers, and other cosmetic restorations. Another option is PoGo™\*, an aluminum oxide impregnated resin polishing point that provides safe polishing for restorative materials.

Understanding the etiology of the stain and then choosing the best products and techniques to treat it will help better meet patients' expectations for polishing while limiting the risk to their oral health.

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\*DENTSPLY Professional, York, Pa

\*\*KaVo America Corp, Lake Zurich, Ill

\*\*\*Young Dental, Earth City, Mo

\*\*\*\*I.C. Care Inc, Mission Hills, Calif

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