

HOWTO

POWER-WHITEN TEETH IN-OFFICE

Ultradent Products' Opalescence® Boost chemically improves teeth shades.

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Information provided by Ultradent Products Inc.

The teeth bleaching (or whitening) industry has seen massive growth since its onset in the late 1980s when the first in-office bleaching light was used. Today, there's a plethora of procedures and products sold within dental offices—and retail stores—for whitening. *Entrepreneur Magazine* estimated that total revenue from dental whitening services in 2011 was \$11 billion. As dental practitioners, not only do we have to understand the demand from the consumer, but the effectiveness and safety of these products.

For the most part, all of these products have hydrogen peroxide or carbamide peroxide (hydrogen peroxide and urea) as active ingredients. Whitening occurs when carbamide peroxide and hydrogen peroxide freely pass through all parts of the tooth. These peroxides break down into oxygen radicals, which migrate between enamel prisms, breaking down any discolored molecules that result in tooth discoloration. Tooth structure is unaltered; it's the internal tooth color that's simply made lighter.

Whitening methods

The methods of whitening generally fall into four groups:

Power whitening or laser whitening—when a power source is used to activate whitening gel. It's an in-office application of a highly concentrated hydrogen peroxide mixture applied with some method of isolation that protects the cheeks, lips and gums. For some brands—such as Zoom! or BriteSmile—an intense light is used to activate certain chemicals in the whitening gel, to enhance absorption. The effectiveness of the light has come under scrutiny in the past—whether

the light actually plays a role in the whitening process or is just “bells and whistles” used for marketing purposes. *Note:* Power whitening has been offered in both whitening centers and in kiosks at shopping malls. This process should only be done under the supervision of a licensed dentist.

Take-home whitening with custom-made bleaching trays. Custom-fitted mouthguards—which are mostly worn while sleeping—allow the patient to apply different strengths of hydrogen or carbamide peroxide from 1 hour up to 8 hours each use. This goes on for a period of time—usually weeks—depending on the color the patient is starting from. Generally the high concentration translates into faster whitening, but also increased sensitivity.

Tray containing whitening gel—which is also applied by the patient. These trays are generally available at pharmacies and supermarkets, and are featured on the Web and infomercials.

Toothpaste containing some form of the peroxide in its formulation.

Demand for tooth whitening by patients has increased dramatically



AT A GLANCE

1. Shade tab used to record patient's before treatment shade.
2. OpalDam resin is built up.
3. Opalescence Boost syringe is activated.
4. Opalescence Boost is generously applied to teeth.
5. Application continues until all teeth are completely covered.
6. The teeth are rinsed.
7. After rinsing, the process can be repeated up to six times per session.
8. Patient's after treatment shade.
9. Patient after successful treatment.

OPALESCENCE BOOST

- No light needed
- Powerful 40% hydrogen peroxide gel
 - PF formula strengthens enamel, decreases sensitivity, prevents caries
- Fresh chemical for each application
 - Precise delivery
- Easy to see for complete removal

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over the years, and has driven great business to our practice—specifically one-hour procedures driven by the marketing of various manufacturers, including: Opalescence® Boost, BriteSmile, Sapphire and Zoom!.

Having researched and tested most of the in-office power bleaching systems, we chose Ultradent Products Opalescence Boost for the following reasons:

- Set up was easier for our staff (a light is not needed)
- I've experienced great results with patients
- The product received high ratings among various third party evaluators
- Easy dispensing and removal, especially with the red die in the gel
- The manufacturer has marketing materials that our practice uses in-office

Case presentation

After researching an in-office whitening system using Google's Web search, a new patient came into our office expressing interest in whitening her teeth. She decided that Opalescence Boost would be the best treatment for her after reading reviews she found on

the Internet and reaching out to friends and family.

STEP 01 Initial photos were taken with a shade tab in place (Fig. 1) and a short 2-minute video explaining the procedure was shown to the patient while the photos were downloaded. The consultation concluded with an explanation of the procedure with a strong emphasis on the expected result.

STEP 02 The photos are reviewed to point out any other concerns such as recession, difficult areas to bleach, decalcifications, etc. Periodontal disease, faulty restorations, and caries are contraindications for power bleaching and must be treated prior to any whitening issues. On the medical issue front, whitening procedures aren't to be done on pregnant or breastfeeding mothers.

STEP 03 Before the whitening session, all calculus, plaque, and staining are removed in a separate appointment when possible. All gingival

inflammation also should be resolved before whitening.

For patients predetermined to have sensitive teeth (our staff asks this question prior to having the patient make an appointment), we usually follow two different types of protocol. If the patient is unable to come to the office, we recommend 2 weeks of brushing with desensitizing toothpaste, such as Sensodyne, twice a day.

For patients who can come to the office and are willing to undergo the additional cost, MI Paste from GC America in custom trays is used and supplies both calcium and phosphate as an effective way to reduce sensitivity.

For the actual whitening procedure, if the patient hasn't undertaken the previous mentioned protocol, we can offer 800 mg of Motrin. A shade tab is taken with an SLR digital camera prior to isolation before teeth become hydrated.

STEP 04 Teeth are first cleaned with pumice to remove any stain and plaque and then isolated with disposable cheek retractors that come in the kit. OpalDam® is light-reflective, passively adhesive (sealing) light cured resin used to protect the gingival as well as any exposed cementum and dentin. The OpalDam resin is built up in 4 mm - 6 mm by 1.5 mm - 2 mm with a 0.5 mm overlap on the enamel (Fig. 2).

Other cheek and lip retraction systems may be used; all should use some type of vacuum system to control moisture. High-speed suction must be used in between each session to remove the re-activated whitening gel. The Opalescence Boost syringe is activated (Fig. 3) and applied generously on the teeth to be bleached (Figs. 4 and 5). In most cases, this is eight teeth.

The Opalescence Boost system requires no light for activation and uses a dual-syringe for chairside mixing. The active ingredient is 40% hydrogen peroxide, which is mixed with red coloring to assist in accurate placement on the teeth—this helps to visualize complete removal when the procedure is complete. Three 20-minute sessions are recommended with additional sessions available for darker or tougher cases (e.g. Tetracycline cases) for up to 6 treatments in one session. The Boost system also contains a 1.1% stannous fluoride and 3% potassium

nitrate formula to decrease sensitivity, strengthen enamel and prevent cavities.

STEP 05 After the allotted 20 minutes, the teeth are rinsed to remove all of the red bleaching gel and the process is repeated (Figs. 6 and 7). The process can be repeated up to 6 times per session or done over multiple appointments.

STEP 06 Post-op instructions include using an in-office power whitening kit as a practice developer. Figures 8 and 9 show the final results.

Conclusion

The dental office can take two approaches about developing the whitening aspect of their practice:

Market it only directly to the patient base. Do this by having whitening displays throughout the office and training staff members how to describe the benefits of all of the whitening agents offered in the practice.

In-office marketing also can include emails to confirm appointments that would contain a banner with links about whitening procedures and any special offers. If the office sends out a newsletter (whether electronic or print) there should be periodic updates about the whitening procedures.

Market it directly to your community. In the age of Groupon and social media, the consumer seeking out a practice for in-office power whitening has to have an understanding of market price. Many practices that use this method attract new patients and keep the introductory price very low to get new patients through the door. These promotions can be through a large coupon buying group like Groupon or specials offered to new patients through your website or various social media sites—such as Facebook, Twitter, blogs and testimonials through YouTube.

Usually, patients who request power whitening require a recent prophylaxis, and in the very least, some restorative procedures prior to the whitening procedure. In many cases, when the whitening is completed and the patient is satisfied, there's usually inquiry to other dental treatment such as replacing old amalgam or discolored restorations and straightening teeth with removable clear aligner therapy.

When you include the total expenditures for the power whitening and follow up treatment, including touch-up whitening and take home products, this is a win-win for both the patient and the dental practice. ●

