

## ADDING VALUE TO INVISALIGN TREATMENT VIA TOOTH WHITENING

Many of today's dental patients are driven by esthetics, and Invisalign is a perfect procedure to address their orthodontic concerns. About 60% of my prospective Invisalign patients inquire about tooth whitening during the initial consultation or at the records visit. I have found this to be a great opportunity to build patient appreciation with the tooth whitening procedure. Unfortunately, this may also be an opportunity to devalue tooth whitening for other patients in your practice.

My practice has had the pleasure of becoming a local leader in tooth whitening. We normally treat 7-10 whitening cases per week, with traditional, take-home trays. A typical fee in our region for tooth whitening with custom trays is \$450. If a prospective Invisalign patient has inquired about tooth whitening I will normally defer answering this question until I present the treatment plan and fee. During the treatment plan presentation I inform the patient of the full orthodontic fee and summarize exactly what procedures are included. I will state that we will include whitening, *normally* a \$450 procedure, as part of their overall treatment. My Invisalign patient immediately places value in the whitening procedure and other whitening patients do not perceive being overcharged.

When is the best time to whiten teeth during Invisalign treatment? Some doctors prefer to whiten teeth completely before or after the Invisalign procedure. The concern with whitening during the Invisalign procedure is that the composite attachments will end up creating a small "polka dot" that will not match the rest of the tooth. No worries! Below are some easy steps for whitening success *during* Invisalign treatment:

1. Pick a composite shade for your attachment that is similar to the *expected* final whitening shade.  
If the patient is expecting the whitening procedure, I would wait until the delivery of their 3<sup>rd</sup> or 4<sup>th</sup> aligner – so they are comfortable with all aspects of the Invisalign procedure prior to adding this extra step.
2. Take photos at the start of the whitening procedure using a shade tab to gauge you patient's progress. Also take pictures at a mid-point and after completing the patient's bleaching treatment.
3. If your patient has not inquired about whitening, this is the perfect opportunity to create a true missionary for your practice. I will casually discuss whitening with my patient at the delivery of aligners 3 or 4 to gauge their interest. Then at delivery of 5 - 6 I will reward my patient for her excellent compliance. I tell the patient that whitening is my way of thanking them for their great hygiene and appliance use. Your patients will love you!
4. Do you need to create reservoirs in your trays to allow space to the gel? No. The viscosity of modern whitening gels is thick enough to stay in the tray and not drip out <sup>1</sup>

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<sup>1</sup> CRA Newsletter 25:2, Feb. 2001

5. I suggest using a low percentage of carbamide peroxide gel – say 10%-16%. This will accomplish your whitening goal without causing sensitivity – we are not in a hurry. Usually 2 sets of aligners will achieve your expected whitening result.
6. What about tooth sensitivity? This usually occurs when root surfaces or dentin are exposed. Adult patients are more likely to have recession or abfraction lesions. Try one of these solutions: A) Alternate tooth whitening days with the use of a neutral topical fluoride treatment. We have found Prevident Brush-on Gel, (Colgate Oral Pharmaceuticals) to be very effective. Have your patient place a ribbon of fluoride in the tray for a 1-2 hour period and alternate with bleaching sessions. B) Another method to avoid sensitivity is the use of Colgate Platinum Gentle Plus Whitening System, (Colgate Oral Pharmaceuticals). This is an **eight-hour paste** as opposed to the two-hour carbamide gel formulas listed below.
7. How long does each whitening session take?  
Most formulas of carbamide peroxide gel will have 90% reaction occur in the first two hours. This means that the need for overnight bleaching is no longer necessary. Patients certainly can wear their whitening trays (or Invisalign aligners with gel) all night long. It will not harm them and they will accomplish the final 10% of whitening reaction. But, if patients are not comfortable using whitening gel all night they can sneak in two hours during the day to achieve nearly the same result. Below are listed some notable exceptions.  
A) The following formulas have the associated 90% reaction times of two hours or less:<sup>2</sup>  
Colgate Platinum Daytime, (Colgate Oral Pharmaceuticals)  
Colgate Platinum Overnight, (Colgate Oral Pharmaceuticals)  
Night White Excel 3, (Discus Dental)  
Vivastyle, (Ivoclar North America)  
Contrast PM, (Spectrum Dental)  
Denta-Lite, (Challenge Products)  
Nupro Gold, (Dentsply Professional)  
Opalescence PF, (Ultradent Products)  
White & Bright, (Omni Products)  
B) Any carbamide gel above 20% may cause sensitivity if used for more than 30-45 minutes. We suggest starting with a maximum of ½ hour when using these strong carbamide formulas to prevent discomfort at the start.

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<sup>2</sup> CRA Newsletter 25:2, Feb. 2001

C) The following gels have a 90% reaction time of thirty minutes or less (meaning that the active ingredient is almost fully depleted at two hours):<sup>3</sup>

FX tooth Whitening Gel, (SL Dental Products)

Zaris, (3M Dental)

Rembrandt Gel Plus, (Den-Mat)

Rembrandt X-Comfort, (Den-Mat)

Karisma, (Confi-Dental).

D) Be sure to note areas of recession before starting the whitening process. A dentin or root desensitizer can significantly improve your chances for pain-free whitening, Gluma Desensitizer (Heraeus Kulzer), Micro Prime (Danville Materials), Seal & Protect (Dentsply).<sup>4</sup> Also, using desensitizing toothpaste two weeks before and during the procedure helps tremendously.<sup>5</sup>

8. Have a team member place a phone call to the patient midway through the the whitening procedure. Your patient will greatly appreciate this service and you can pick up on any small challenges before they become big problems.

9. Removal of the attachments after completing your Invisalign treatment is easy. We have had great success with the Direct Bond Bracket Remover (Wide, replaceable tip, with pad) - ODG 349RP, (Invecta Instruments, via GAC Intl Ortho Supply). This instrument will cleanly remove composite attachments with no damage to the enamel. The Invecta Bracket remover is also wonderful for removing the excess bracket cement occasionally left behind by standard ortho brackets. We always have a couple Invecta Bracket removers ready in our hygiene area.

After using the Invecta Bracket remover, clean and refine any excess composite with an 8 fluted carbide finishing bar ET6(H134F) [Brasseler USA], followed by a 16 fluted carbide finishing bur ET6F(H134F) [Brasseler USA]. Polish with a prophyl cup and fine pumice.

10. Time to whiten the small “polka-dots” left behind by the attachments during the Invisalign/whitening process. First, you will notice that the polka dot does not leave as large a footprint as the original attachment. I attribute this to a leaching effect that occurs during the whitening process. The gel apparently penetrates into the surrounding enamel rods resulting in a diffused effect around the attachment.

Use one of the following procedures to achieve a nice whitening result:

A) We will simply set aside a small portion of unused (sterile) laser whitening material from earlier in the day. If necessary, we will block

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<sup>3</sup> CRA Newsletter 25:2, Feb 2001

<sup>4</sup> Nathanson, D. Vital tooth bleaching: sensitivity and pulpal considerations. JADA 1997;128:41S-4S.

<sup>5</sup> Leonard, et. al. Desensitizing Agent Efficacy during Whitening in an At-Risk Population. JERD 2004; 16  
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out the areas around the polka dots with liquid dental dam, use 2 –3

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bleach applications for a nice shade match. Invariably, almost any of the whitening gels seem to do the trick.

- B) If you do not have a laser/light-activated whitening system, you still can achieve the same result. Try using a small amount of strong in-office whitening gel (usually these formulas range from 25-40%.

*Hydrogen peroxide*. Examples are White Speed (Discus Dental) and Boost (Ultradent Products). Caution, all of these formulas are very strong and will chemically cauterize epithelial tissue!<sup>5,6</sup>

11. Final touches may need to take place for an excellent result. Invisalign aligner trays that are trimmed short of the free gingival margin will not whiten well. The same applies for a whitening tray with poor adaptation. Although this was a more common problem in the past, nowadays, a super-accurate impression will eliminate this obstacle. If you notice this situation it is best to take a new set of impressions and fabricate some new trays after all treatment is completed. Use these trays to whiten those teeth that have dark areas in the cervical 1/3 or did not achieve the expected result. These new trays can be used for “boosting” or touch up in the future.

As an Invisalign provider you already have established yourself as a cutting edge dentist. Patients appreciate your high tech approach and will value the addition of an aesthetic whitening procedure. Proper presentation and treatment protocol of the whitening/Invisalign combination will put you at the forefront of service for your esthetically motivated dental patients.

### ***Straight and white teeth – what a concept!***

Dr. Brian Gray is an original General Practitioner Invisalign Certification Instructor. He maintains a full time fee for service practice in Washington, DC.

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<sup>6</sup>Tavares, M., et.al., Light augments tooth whitening with peroxide. JADA 2003;134:167-175.