

# FARLEY FAMILY ORTHODONTICS

APRIL 2009

## TECHNOLOGY USED IN THE OFFICE

### The Diode Soft-Tissue Laser and Orthodontics

With an ever-increasing emphasis on both efficiency and aesthetics in orthodontics, the diode soft-tissue laser is a powerful addition to the orthodontist's armamentarium. Clinical indications for use of the diode soft-tissue laser during orthodontic treatment include selective access gingivectomy to allow the bracket to be placed earlier in treatment and/or more precisely, thus reducing both the number of appointments and the overall treatment time. In cases where the frenum needs to be released, the laser can be used to perform this procedure in minutes. Gingivectomy for tissue hyperplasia can greatly improve tissue health and appearance, and can also facilitate improved oral hygiene. And aesthetic gingival recontouring can make a significant contribution to the overall final result.

Prior to laser surgery, the target tissues are anesthetized with a unique compounded topical anesthetic gel made up of Tetracaine (4%), Phenylephrine (2%), and Lidocaine (20%). The combination of the two local anesthetics has a profound anesthetic effect, while the Phenylephrine promotes local homeostasis to decrease systemic absorption and prolong duration of action. Peak anesthesia occurs within 6 minutes and lasts a minimum of 20–30 minutes.

Ordinarily, when tissue is to be removed, the tip is held in light contact with the tissue, and the procedure is performed with light, sweeping "brush strokes" while the assistant holds a high-volume suction unit near the tissue to evacuate any laser plume and odor, and to cool the target tissue (Figure 1).

The tissue should appear slightly brown, not charred black. There is rarely any bleeding or discomfort, since the blood vessels and

nerve endings are sealed while the tissue is removed. Applying over-the-counter hydrogen peroxide removes the slight discoloration of the tissue, and within minutes, the tissue appears relatively normal (Figure 2).

Following the procedure, the patient is given an ultra-soft toothbrush and postoperative instructions: Take an over-the-counter analgesic for mild pain if needed, keep the area clean, and expect some minor bleeding from the site for the next few days. Healing takes place in 4–5 days, and the patient is seen for postoperative evaluation in about 2 weeks.

### SPECIAL POINTS OF INTEREST:

- ever-increasing emphasis on both efficiency and aesthetics in orthodontics
- reducing both the number of appointments and the overall treatment time
- laser can be used to perform this procedure in minutes



Figure 1: Tissue is "painted" away with light strokes while an assistant holds a high-speed aspirator close to the target tissue to remove any laser plume and odors.



Figure 2: The "char layer" of ablated tissue is removed with hydrogen peroxide.

## ORTHODONTICS 911

### These solutions may help you relieve your discomfort

True orthodontic emergencies are very rare, but when they occur we are available to you. Please remember you should call the office when you experience pain or when you have an appliance problem that you can't take care of yourself.

We'll schedule an appointment to resolve the problem. However, you may be able to temporarily solve many problems yourself until we can see you at the office. After alleviating

your discomfort, it is very important that you still call our office as soon as possible to schedule a time to repair the problem. Allowing your appliance to remain damaged for an extended period of time may result in disruptions in your treatment plan.

**Poking Wire:** Using a pencil eraser, push the poking wire down or place wax on it to alleviate the discomfort.

**Loose Bracket or Band:** If your bracket or band is still attached to the wire, you should leave it in place and put wax on it. If the wire comes out entirely, wrap the bracket with a tissue.

**Loose Wire:** Using tweezers, try to place your wire back into place. If doing this and using wax does not help, as a last resort use a small fingernail clipper to clip the wire behind the last tooth to which it is securely fastened. If your discomfort continues, place wax on it.

**Loose Appliance:** If your appliance is poking you, place wax on the offending part of your appliance.

**General Soreness:** When you get your braces on, you may feel general soreness in your mouth and teeth may be tender for three to five days. This can be relieved by rinsing your mouth with a warm saltwater mouthwash. Dissolve one teaspoonful of salt in eight ounces of warm water, and rinse your mouth vigorously. Placing Orabase on the affected area may help; this can be found in your local pharmacy. If the tenderness is severe, take aspirin or whatever you normally take for headache or similar pain. The lips, cheeks and tongue may also become irritated for one to two weeks as they toughen and become accustomed to the surface of the braces. You can put wax on this. We'll show you how!

- greatly improve tissue health and appearance
- can also facilitate improved oral hygiene
- gingival recontouring can make a significant contribution to the overall final result



Figure 4: A) An 8-year-old male patient showing late-erupting lateral incisors requiring exposure. B) The upper right and left lateral incisors are exposed with the diode laser.



Figure 4: C) Brackets are placed and wires are engaged immediately after surgery.

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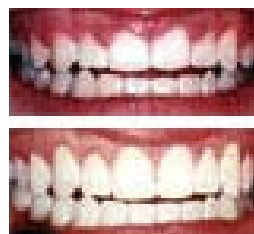


Figure 3: A) Five months after space creation, the upper right cuspid had not broken through gingival tissue. B) Access gingivectomy is performed with a diode soft-tissue laser. C) A bracket can be placed and the wire can be engaged immediately after surgery.



**Fig. 15** Full-facial view of a patient who presented with short clinical crown length, excessive gingival display, and a desire for whiter teeth.



**Fig. 16** Close-up pre-operative view of the patient in her natural smile.



**Fig. 17** Pre-operative view showing the patient's short clinical crown length, gingival display and tooth color.



**Fig. 18** The tissue height to bone was measured before initiating the gingival recontouring procedure using the soft-tissue diode laser.



**Fig. 19** View showing where the soft-tissue diode laser fiber optic tip contoured the gingival tissue.



**Fig. 20** Post-operative view immediately following completion of the soft-tissue diode laser gingival recontouring.



Before Procedure



Immediately Following Procedure



**Fig. 21** Post-operative view of the gingival recontouring after the tissue was allowed to heal.



**Fig. 22** Retracted post-bleaching view of the patient's teeth. This image was captured several weeks after soft-tissue laser gingival contouring.



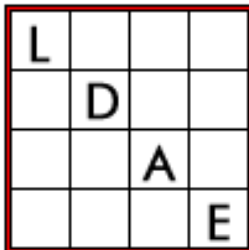
**Fig. 23** Final post-bleaching view of the patient in natural smile. Note the conservative nature of the esthetic smile enhancement achieved using the soft-tissue diode laser for gingival contouring followed by vital tooth bleaching.



At the 2 week check-up



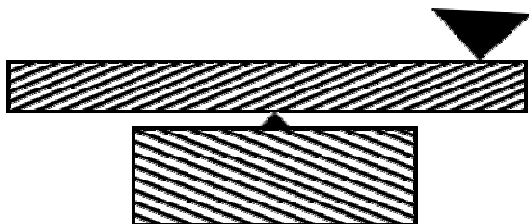
1. Using the letters AAEEIIMMPPTT complete this grid. The grid reads the same across as down.



2. If you are in a dark room with a candle, a wood stove and a gas lamp. You only have one match, so what do you light first?
3. Can you name four days which start with the letter "T"?
4. Can you find a number such that its double is fourteen more than its quarter?
5. Below are five phrases that have been tinkered with. Rearrange the words so that when they are read aloud they will sound very similar to the required phrase. For example "Ducks Sits Hound Fa Mill Ear" = "Does it sound familiar".

crows dose eggs my off pea wind  
 cab chalk clicks fizz lie lye ox soft  
 a crowed fall jest lobe Rick oath yell  
 beef four heap luck Yule  
 dud rough wharf whorls

6. Is this a level balance?



1. The words are limp, idea, meat, pate
2. The match!
3. Tuesday, Thursday, today, and tomorrow!
4. 8
5. my crows off wind dose eggs pea  
 lie fizz lye cab ox soft chalk clicks  
 = Life is like a box of chocolates  
 = Microsoft Windows XP  
 jest fall oath a yell lobe Rick crowed  
 = Just follow the yellow brick road

Everybody say hi to some of the new patients at Dr. Farley's office.

- Blake A.
- Rachel B.
- Taylor B.
- Evelyn C.
- Kaylee C.
- Arianna D.
- Kaylee E.
- Kaci M.
- Hannah M.
- Eyan P.
- Mackenzie Q.
- Alex S.
- Bethany S.
- Connor W.

- Madison F.
- Victor G.
- Gloria G.
- Kristin H.
- Kathryn H.
- Parker H.
- Tara J.
- Lindsay L.
- Jason W.
- Drew M.
- Melissa R.
- Jacob S.
- Mitchell S.
- Paige M.
- Danielle M.
- Kelly M.

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		3	7		1	5	
6							4