



SPECTRUM LASERS INC  
**LASER PROCEDURES GUIDE**

**1. Strip Fiber:** Insert the fiber through the round hole fiber guide of the light blue stripper approx 1 inch. Squeeze handles together and sharply pull the fiber out with other hand.

**Hand Piece:** Loosen hand piece nut, insert fiber through the nut end and through a clear tip extending fiber beyond tip approx 6mm. Tighten down end nut.

**Fiber cleaving.** Firmly hold the fiber about 1/2 inch from the fiber end (to prevent the fiber from slipping) on a hard flat surface approx 1 inch from an edge of the surface. Open the scissors, hold one blade at a 45 degree angle on the fiber, 3-4 mm from the end, and pull towards you for about 1 inch, stop before reaching the end of the scissors to avoid snapping the fiber. You are making 1 scratch/score on the fiber. Snap the fiber off at the score line. Do not press hard and break the fiber. Look for a near perfect round red circle.

**Condition the end of the fiber, carbonized Tip.** 0.8W coat the end of the tip with carbon (ink), articulating paper or sharpie, approx 2mm up side of fiber, with foot pedal down.

**2. Topical:** Apply a medium thick layer, similar to applying etch, and leave to penetrate for approx 2-3 minutes. Leave topical for an additional 2-3 minutes for a frenectomy or fibrous tissue. Wait at least 5 minutes before lasing. Patient should be numb for approx 20 minutes. Re-apply if needed. Remove topical before lasing

**3. Gingivectomy and Gingivoplasty: 1.0W-1.2W, pulse mode, carbonized tip,** gently vaporize away the target tissue, similar contact to a water coloring stroke, lightly and slowly gliding the fiber tip on the tissue removing a thin layer at a time. Fibrous tissue: increase power as needed 1.4W-2.0W, pulse mode. Excisions, grip with forceps and lase at the base.

**4. Tooth Exposure: 1.0W-1.2W, pulse mode, carbonized tip,** increase power as needed for fibrous tissue, use a probe to locate tooth. Make an incision by gently lasing around the perimeter of the desired window until you can feel the tooth. Depending on the desired depth, the incision may require several gentle passes. Remove the tissue flap with forceps or cotton pliers.

**5. Hemostasis: 2.0W, continuous wave, non-carbonized tip, out of contact,** 1-2mm away from the site, and use very slow sweeping motion.

**6. Anterior Gingival Height: 1.0W-1.2W, pulse mode, carbonized tip,** use a probe to mark height guides leaving 1mm of sulcus when finished, hold fiber near perpendicular to tissue at gingival margin and paint away the tissue surface a layer at a time until height and reshaping goals are met, lightly scrub skin tags and char with a micro brush or cotton roll and hydrogen peroxid

**7. Recontouring Anterior Tissue: 1.0W-1.2W, pulse mode, carbonized tip,** carbonize approx 2mm up the side of fiber. Using the side of the fiber gently thin the margin to make a knife-edge. Remove bulbous tissue areas away from the tissue margin first using the tip end and thin down as needed. Fibrous tissue: increase power as needed 1.4W-2.0W, pulse mode.

**8. Frenectomy: 1.4W-1.8W, pulse mode, carbonized tip,** lightly grip the lip and pull the frenum taut, lase with a horizontal stroke approx 2 mm from the frenum base. Tissue will absorb the energy for approx 10 seconds before cutting, continue until lip is released leaving a diamond shaped crater approx 1" wide; be sure to continue deep enough to avoid reattachment. Smooth the remaining tissue at the base of the frenum.

**9. Aphthous Ulcers, Herpetic Lesions: 2.0W, continuous wave, non-carbonized tip,** hold tip approx 1" away from site and lase as close as possible without discomfort, often 2-4mm. 4 x 30 second intervals with approx 10 seconds to cool between lasing. Blow air while lasing.

## **10. Laser Troughing/Margin Exposure, 1.0-1.2W, pulse mode, carbonized tip**

Use short brush strokes to gently widen the sulcus around the tooth. Angle the fiber slightly toward the tooth and vaporize an epithelial cell layer with each pass. Use light pressure around a quarter of the tooth at a time. Two or three passes may be required to achieve the desired trough depth or width. Lasing time is usually 2-3 minutes per tooth.

## **11. Periodontal Therapy, closed pocket**

The patient is anesthetized with local anesthetic and pocket depths are probed. Laser therapy is an adjunct procedure to scaling and root planing

### **Step 1. Perio De-contamination, 0.6W, pulse mode, non carbonized tip**

Set the fiber length to the depth of the deepest pocket and place the fiber in the sulcus parallel to the root or implant surface at the bottom of the sulcus. Use a light paint brush stroke aiming the fiber at a slight angle toward the pocket lining and not the root surface. Keep the fiber moving slowly and gently with horizontal and vertical motion from the pocket base towards the coronal portion of the tooth for approximately 10 seconds per tooth depending on pocket depth and location. Decontamination includes the entire circumference of the tooth or implant. Periodontal bacteria are selectively destroyed by the laser's light energy resulting in a significant reduction in sulcular bacterial levels. The calculus adherence to the root surface is modified by the laser energy so its removal is readily accomplished.

### **Step 2. Remove hard deposits with ultrasonic scaler and hand instruments.**

### **Step 3. Laser Curettage/Sulcular Debridement, 0.7W, pulse mode, carbonized tip**

Remove the diseased epithelial lining using the same motion as above for 30 seconds to 1 minute per area depending on depth and location. Inter-proximal areas will take longer than facial or lingual areas. Molars with furcation involvement require increased time. Flush the pockets with water. Laser energy selectively removes the diseased, infected and inflamed pocket epithelium while preserving healthy connective tissue. Aseptic hemostasis is achieved. Compress the gingival tissue against the root surface. No sutures or adhesives are needed. Mobile teeth above class II mobility are splinted. Occlusal adjustments may be required to remove interferences and minimize trauma. Laser curettage will require up to 10 minutes per quadrant or 30-45 minutes for the entire mouth during one appointment.

### **Step 4. Post Operative Instructions**

Laser curettage rarely causes post-operative discomfort. Ongoing periodontal maintenance appointments are scheduled. Patients are monitored after 30 days and then every 3 months for periodontal maintenance. No subsequent probing is performed for nine months to a year to allow sufficient healing and reattachment. Decontamination should be performed during perio maintenance appointments only at the top of the pocket with caution to avoid disturbance of newly formed attachments at the base of periodontal pockets.

## **12. Settings for IMPLANTOLOGY LASER, other lasers use perio setting above**

### **Step 1. Peri-Implantitis, de-contamination, CLOSED POCKET treatment, 0.6W, pulse mode, non carbonized tip**

Set the fiber length to the depth of the deepest pocket and place the fiber in the sulcus parallel to the implant surface at the bottom of the sulcus. Use a light paint brush stroke aiming the fiber at a slight angle toward the pocket lining and not the implant surface. Keep the fiber moving quickly and gently with horizontal and vertical motion from the pocket base towards the coronal portion of the tooth for a maximum of 15 seconds per tooth. Decontamination includes the entire circumference of the implant. Periodontal bacteria are selectively destroyed by the laser's light energy resulting in a significant reduction in sulcular bacterial levels. The calculus adherence to the root surface is modified by the laser energy so its removal is readily accomplished.

### **Step 2. Remove hard deposits and debris with ultrasonic scaler and hand instruments.**

**Step 3. Sulcular Debridement, 0.6W, pulse mode, carbonized tip**

Remove the diseased epithelial lining using the same motion as above for 30 seconds to 1 minute per area depending on depth and location. Inter-proximal areas will take longer than facial or lingual areas. Flush the pockets with water. Laser energy selectively removes the diseased,infected and inflamed pocket epithelium while preserving healthy connective tissue.

**Step 4. Follow up with De-contamination**

**13. Settings for IMPLANTOLOGY LASER, other lasers use perio setting above**

**Step 1. Standard protocol, remove hard deposits and debris with ultrasonic scaler and hand instruments, citric acid, etc.**

**Step 2. Peri-implantitis, OPEN FLAP, 0.7W, pulse mode, non carbonized tip, out of contact,** use laser as last step after standard protocol: hand instruments, ultrasonics, citric acid, etc. Approx 5mm out of contact of implant (look for red spot size of approx 3mm), lase wet implant surface moving over ENTIRE implant surface for 15 seconds with 30 second cooling interval. Repeat 3-4 times to insure coverage of entire implant area. Do not exceed 15 seconds or increase power. Use same method for bone and tissue defect area, 2 - 15 second intervals.

**Step 3. Follow ups,** same as step 2 or closed pocket de-contamination

Lightly scrub away skin tags and char with 3% hydrogen peroxide using a micro brush or cotton roll. Use high volume evacuation for plume and a wet 2x2 to remove tissue from the laser fiber tip. Always use pulse mode and a carbonized tip for cutting. Massage tissue with vitamin E prior to releasing the patient.

BTT 12.5 Topical, Lidocaine 12.5%, Tetracaine 12.5%, Prilocaine 3%, Phenylephrine 3% Gel, ask for instructions,

855-876-3060 [http://www.woodlandhillspharmacy.com/best\\_topical\\_ever.php](http://www.woodlandhillspharmacy.com/best_topical_ever.php)

Ultradent Laser Tips #1361 800-552-5512,

Bendable perio tips: Ultimate Dental #7683-315118 800-388-7868

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