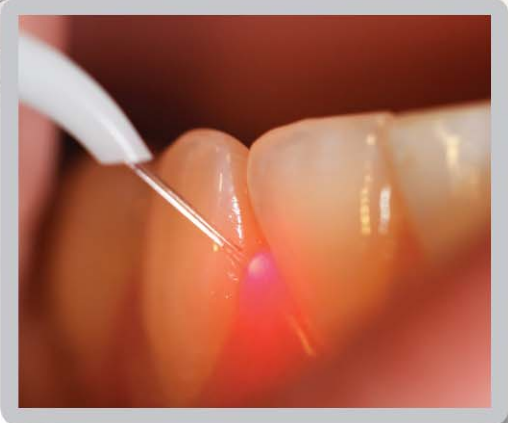
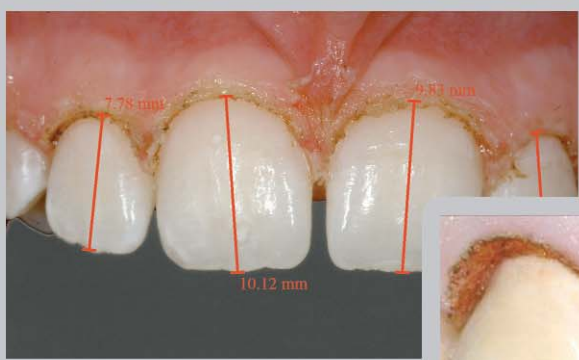
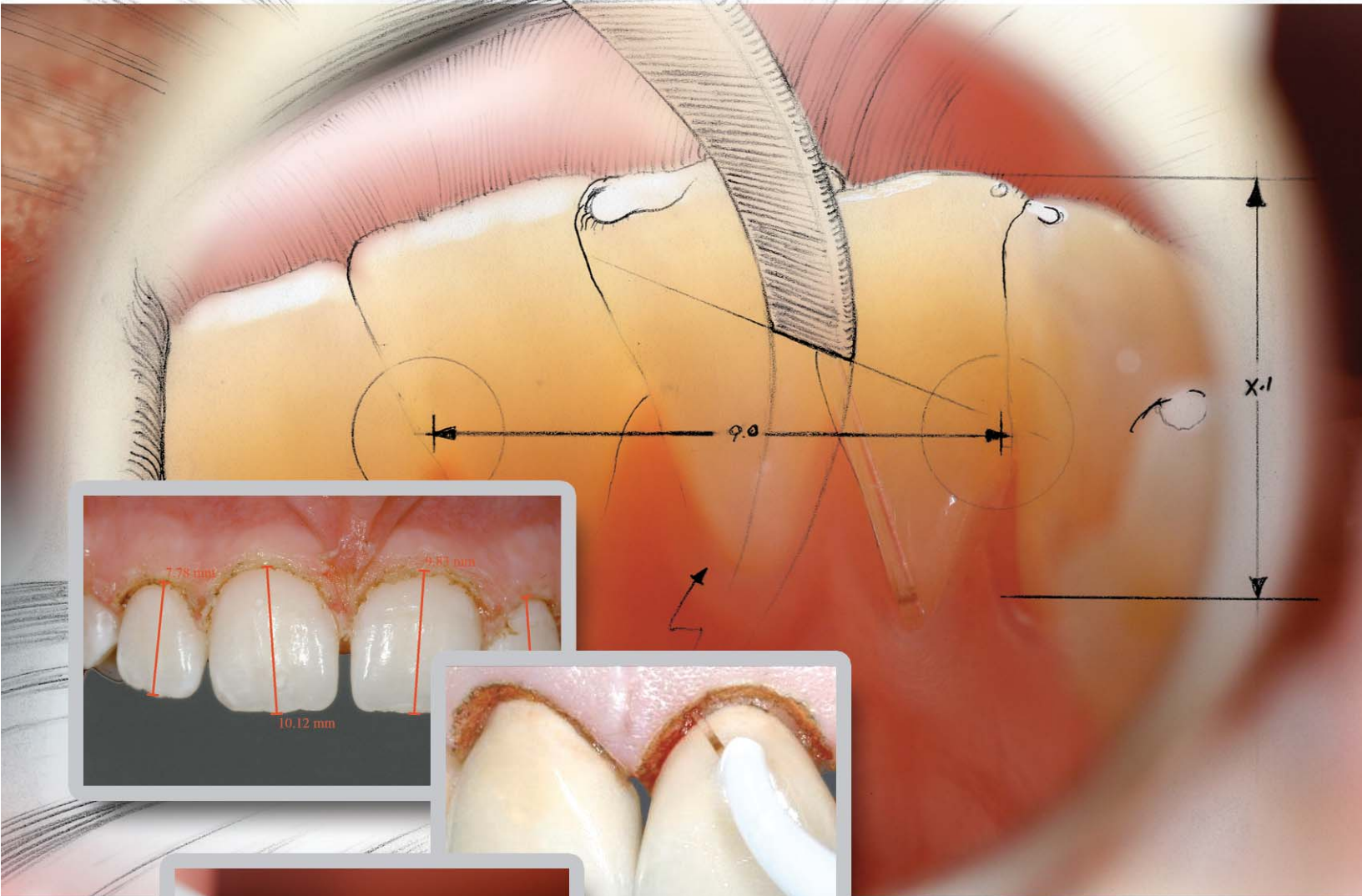


Odyssey Diode Laser Clinical Guide



Odyssey® 2.4G
Odyssey® 3 Watt
Odyssey® Navigator

DIODE LASERS

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Power and Mode Parameters for Dental Procedures

Introduction

Welcome to the Odyssey Diode Laser Clinical Guide, this is a tool that has been designed for clinicians featuring basic guidelines of operation for soft tissue procedures. The Odyssey Family of Diode Lasers will improve the clinician's ability to perform current procedures faster and more efficiently and will also allow them to expand the services currently offered in their practice in a more conservative, less traumatic and less invasive manner.

Please note that in each example a somewhat wide range of laser power is listed. As each clinical situation is unique, the appropriate power setting and mode are primarily determined by the type of lesion and tissue characteristics. For instance, a more fibrotic tissue requires higher power; or the selected mode of operation, continuous or pulse may require adjustment of the power intensity. A pulse mode typically is set at higher power intensity due to the fact that the laser is activated half of the application time. Finally, the speed of cutting desired by the operator, the duration of the exposure and the technique employed will also determine the power intensity selected. **It is always best to use the lowest power setting that will effectively modify the tissue while avoiding charring.**

Laser Safety

Before using a medical laser, a laser safety program should be developed and implemented to assure safety for the patient and the dental office team. Basic laser training for dental professionals is highly recommended to learn to utilize laser technology to its full potential.

Licensed dentists may utilize the laser for treatment on patients without additional licensure or certification. Training is however recommended. States and provinces that allow a hygienist to use the laser for adjunctive periodontal care require that the hygienist operate the laser only under a dentist's supervision. Check your state/province's Dental Practice Act to verify that it permits the use of the laser by a dental hygienist and under what conditions.

Preparations for Treatment

Refer to owner's manual for the laser you own before using this laser.

Odyssey 2.4G, Odyssey 3 Watt

Prior to treatment, the laser fiber must be stripped, cleaved, a disposable tip placed and the fiber initiated (when the procedure calls for it). Do not advance more fiber from the fiber cassette than is necessary so as to reduce the possibility of fiber damage or breakage. In preparing for placement of the fiber in the handpiece, the fiber must be stripped first, then cleaved. Strip the jacket from the fiber so

that about 1/2" of bare fiber remains. Next, cleave the fiber approximately 1/8" from the distal end. Loosen the locking hub on the back of the sterilized handpiece and advance the fiber 3/4" beyond the distal end of the handpiece. Place the fiber through a new disposable tip by placing pressure on the tip so as to straighten it and then advance the fiber into the tip until the fiber jacket is almost visible at the end of the tip. Place the tip on the handpiece, adjust the fiber and then lock the hub. Check to see if it is secure in the handpiece. You are now ready to initiate the tip if your procedure dictates it. After completing your clinical treatment, the fiber tip should be cleaved and the extended fiber should be wiped with an OSHA approved disinfectant. The handpiece must be autoclaved and the disposable tip discarded.

Odyssey Navigator

Simply snap-on a uni-dose fiber tip to the handpiece. The fiber tips are pre-stripped & cleaved for immediate use. For procedures where contact is recommended, the tip may require initiation.

Lasing Tips

- Use short 1-2 mm "paint brush" type strokes and move quickly when modifying soft tissue.
- Angle the fiber tip so that the laser removes tissue with the flat cleaved tip but still does not give you a blunted finish in the area of the crestal gingival.
- You can recontour or bevel tissue that is too thick.
- Always try to avoid accumulating gingival debris on the fiber tip to avoid creating a "hot tip".
- If a decrease in cutting efficiency is detected, re-cleave the fiber end and re-initiate the fiber if necessary.
- Avoid immobilizing the fiber tip in one area for a prolonged period of time and do not use excessive energy.
- Avoid contacting or damaging the periosteum during lasing and do not use the Odyssey on alveolar bone.

You may remove debris from the surgical site by lightly wiping it with either a 2 X 2 gauze sponge or a cotton applicator that has been moistened using water or hydrogen peroxide. Advise patients to avoid eating hot and spicy foods while the lased site is healing.

Not all soft tissue procedures require contacting the tissue with the fiber tip. Those procedures that do not require contact will use a fiber tip that has not been initiated because, to be effective, the energy will flow from the tip like water from a garden hose. An initiated tip is used to retain laser energy and when used in contact with tissue, it will remove tissue rapidly. Regardless of whether you are using an initiated or uninitiated tip, always check the quality of the cleave prior to starting the procedure.

For the accurate utilization of the laser, it is important to learn a proper fiber cleaving technique. Please refer to the Odyssey Owner's Manual for instruction. Record powers used and treatment times in the patient's chart.

Procedures and Techniques

These procedure guidelines are provided for your review and have been developed based on information provided by experienced laser users and educators. The information herein is provided as a guide only and additional laser education should be sought in order to assure your competency. Ask your sales representative about other laser dentists in your area who may be willing to act as a mentor, or who can be contacted if you have questions. Always review the patient's history to evaluate possible contra-indications for the use of local anesthesia or other complications.

Operation of each Odyssey Laser, i.e. Odyssey 2.4G, Odyssey 3 Watt and Odyssey Navigator differs somewhat. Please refer to the owners manual delivered with your laser product.

Contouring

Tip: Initiated 400 micron
Mode: Continuous Wave
Power: 0.8 Watts
Anesthesia: Local as needed
Technique: Contact

- After anesthesia is profound, insert a periodontal probe into the sulcus down to the crest of the bone.
- Measure that depth from the crest of the gingiva down to the bone. Note that reading and reduce it by 2.5 mm.
- Make a stick mark in the facial gingiva at a point 2.5 mm above the crest of the bone. Always leave 2.5 mm or more of gingival tissue above the crest of the bone when performing a crown lengthening procedure, so as to not infringe upon the biological width of the tooth.
- Angle the tip slightly toward the incisal and make a series of 2-3 mm quick strokes with the fiber tip as you remove tissue and establish the new line for the crestal gingiva.



Troughing

Tip: Initiated 400 micron
Mode: Continuous Wave
Power: 0.8 Watts
Anesthesia: Local as needed
Technique: Contact

- Following preparation of the tooth, cleanse the area with H₂O₂ and then rinse with a light spray of water.
- Air dry with low volume flow of air.
- Lightly contact the sulcus lining just inside the crest of the gingiva while resting the side of fiber against the tooth.
- Using very light pressure, begin lasing as you make small paint brush strokes around the circumference of the tooth.
- Create a small trough between the tooth and gingiva.
- Note: Larger capillary damage may also require additional hemostasis by using chemical hemostatic agents. Hemostasis may improve by using an uninitiated tip.



Gingivectomy

Tip: Initiated 400 micron
Mode: Continuous Wave
Power: 1.0 Watts
Anesthesia: Local as needed
Technique: Contact

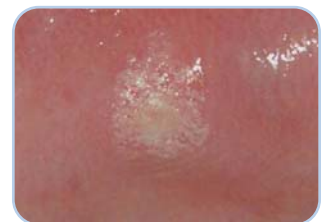
- Using a periodontal probe, record the depth of the pocket you are treating and evaluate its condition, either acute or chronically inflamed.
- If there is no apparent exudate present, use the periodontal probe to define the height of contour that you wish to establish.
- With the patient anesthetized, carefully place a stick mark along the facial aspect of the gingiva to create a reference for your incision path.
- With the fiber angled slightly toward the occlusal or incisal, remove the diseased tissue down to the previously marked incision line.
- Taper and festoon the crestal gingiva as needed and then quickly remove the diseased epithelium and restore anatomical contour.
- **Note:** Remember to avoid touching the root whenever possible and move quickly while near the bone or root.
- Flush the pocket using a warm saline solution or hydrogen peroxide.
- Record powers used and treatment times in your patient's chart.



Aphthous Ulcer Care

Tip: Un-initiated 400 micron
Mode: Pulse Wave
Power: 1.4 Watts
Anesthesia: No local is needed
Time: 30 seconds
Technique: Non-Contact

- With a newly cleaved un-initiated fiber tip and power at 0.5 watts, start lasing about 10mm above the lesion and make circles from the outside edge of the lesions and move toward the center.
- The first pass, set the power to 1.4 watts. Use the laser for 10-20 seconds and stop to check if the patient feels pain or excessive heat.
- If not, increase the laser power to 1.8 watts and repeat the circling procedure for up to 30 seconds.
- Again, check with the patient and if okay, increase the power to 2.0 watts.
- Repeat the process a third time while moving closer to the lesion. Usually, the lesion will begin to display a milky appearance. If it does, you have completed the care for that day.
- If there is no milky appearance, you can repeat the circling motion until you are down to about 2 mm from the lesion.
- **Note:** Do not exceed 2 minutes of total treatment per session. Keep the fiber tip moving at all times as you move closer.
- Repeat the procedure in 3 days if the condition doesn't improve and the pain is diminished.
- Record powers used and treatment times in the patient's chart.



- **Note:** Avoid the vermillion border whenever possible. Use high volume evacuation during the entire procedure. This procedure does not require you to contact the tissue.

When using the Odyssey Navigator:

- Select Aphthous Ulcer Program.
- Start Lasing about 10mm above the lesions and move toward the center.
- Check to see if the patient feels pain or excessive heat.
- If not, repeat
- Check with patient and if OK, repeat.

Frenectomy

Tip: Initiated 400 micron
Mode: Continuous Wave
Power: 1.0 Watts
Anesthesia: Local as needed
Technique: Contact

The procedures to relieve the frenum will differ for three basic areas:

1. Mandibular frenum – labial or buccal
2. Mandibular frenum – lingual (tongue-tied relief)
3. Maxillary frenum – labial and buccal

Mandibular Labial frenum Attachments:

Place tension on the frenum by retracting the lip or cheek. Begin at the base of the attachment to the gingival tissue and make an incision that is perpendicular to the length of the frenum.

- Using continued tension, extend the incision until you are nearing the periosteum.
Note: Do not cut into or damage the periosteum.
- You may need to extend your incision laterally when you have a wide attachment.
- Wipe the debris from the hard and soft tissues using hydrogen peroxide or warm saline solution.
- Sutures are usually not required.

Lingual Frenum:

Lingual frenum relief must be approached with caution to insure that you do not inadvertently rupture or incise the rich vascular beds in the floor of the mouth and the inferior border of the tongue.

- Though techniques are a matter of personal preference, many operators will grasp the frenum with a hemostat near the attachment to the tongue and use the a hemostat to protect the vascular complex as the incision is made and the frenum released.



Maxillary Labial Frenum:

Grasping the lip, place tension on the frenum and begin to make a perpendicular incision at the most coronal aspect of the attachment to the gingiva.

- With continued tension, release the frenum fibers as you are moving apically.
Note: Do not perforate or incise the periosteum
- Release all fibers down to the frenum attachment to the periosteum.
- A diamond shaped surgical area will indicate that you have released the attachment.
- Use warm saline rinses to clean the area.

Biopsy and Fibroma

Tip: Initiated 400 micron
Mode: Continuous Wave
Power: 1.0 Watts
Anesthesia: Local
Technique: Contact

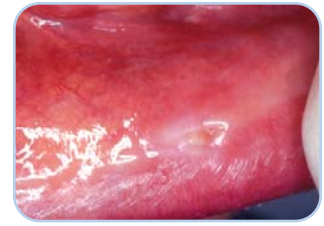
Depending on the location of the lesion, you will want to establish a perimeter around the lesion that is 2mm+ outside its border.

- Grasp the lesion with the beaks of a hemostat or tissue forceps and pull the lesion away from its base.
- With the tip contacting the tissue at the base of the lesion, activate the laser as you make an incision to remove the lesion.
- Limit the amount of power you use and move in quick strokes of 2-3 mm each so that you do not accumulate excessive energy.
- Place the lesion in a specimen bottle and send it to a diagnostic lab.
- **Note:** If you have maintained the 2mm boundary around the lesion, the pathologist should be able to compare the healthy tissue with the diseased specimen.



Abscess

Tip: Initiated 400 micron
Mode: Continuous Wave
Power: 1.0 Watts
Anesthesia: Topical or Local
Irrigation and High Volume Suction
Technique: Contact



Determine the status of the lesion, chronic or acute, and select a site to enter the parulis of the infection.

- Based on the lesion status, enter the lesion by placing the fiber tip at the most coronal spot on the parulis and with short strokes, make an incision to establish a drainage path.
- Using high volume suction, irrigate the area with saline solution as the exudate appears.
- Insert the fiber tip into the incision site without emitting energy and lightly probe the area inside the parulis as you advance the fiber apically.
- Once you have established the base of the parulis, back the fiber out approximately 2 mm and activate the laser as you slowly withdraw the fiber.
- Remove the fiber briefly and allow any exudate to drain.
- After the draining is slowed, re-enter the parulis and insert the fiber just short of the base and then withdraw the fiber as the laser is activated.
- Repeat the process until you have established a clear path for completing the remaining drainage.
- **Cleave the fiber tip and do not initiate the fiber and re-enter the parulis while activating the laser at 2.0 Watts in the pulsed mode.** **Note:** This process will "flood" the area with laser energy and reduce the number of pathogens remaining within the parulis.



- Administer oral antibiotics as needed and give the patient instructions on using warm saline to cleanse and irrigate the oral environment.
- If you are not able to complete the drainage procedure without pain, review basic protocols before administering a local anesthetic into the infected area.

Hemostasis

Tip: Uninitiated 400 micron
Mode: Continuous Wave
Average Power: 1.0 Watts
Anesthesia: Topical or as needed
Technique: Non-Contact

Place the fiber tip 2 mm above the gingival sulcus non-contact with tissue, direct energy into sulcus and away from the dentin and cementum.

- Activate the energy as you make a series of 2-3 mm strokes while circling the tooth. This should take 30 – 40 seconds.
- **Note:** Do not stop the movement of the fiber tip until you have reached the starting point again and do not contact the tissue.
- Examine the sulcus and see if you have hemostasis or if the "oozing" has slowed.
- Repeat again for 30 seconds if hemorrhage persists.
- If bleeding continues after the second attempt, clean any excessive hemorrhage and lase for a third time. Do not exceed 1 1/2 minutes of lasing care.
- **Note:** Continued bleeding will indicate that you may have a larger arteriole that requires other hemostatic assistance in order to control.



Sucular Debridement

Tip: Initiated 400 micron
Mode: Continuous Wave
Power: 0.8 Watts
Anesthesia: Topical or Local as needed
Time: 30 seconds
Technique: Contact

After conventional instrumentation has been completed, insert the fiber tip to the full pocket depth.

- Gently probe the pocket to get a sense of its geometry.
- Begin to lase the diseased epithelial lining.
- Always use the lowest amount of power necessary to reach the treatment objectives.
- Keep the fiber parallel to the root surface during lasing or with the tip slightly tilted toward the gingival tissue in order to maximize ablation of the inflamed tissue.
- Keep the fiber tip in contact with the epithelium.
- Move the fiber in both horizontal and vertical directions, covering the epithelium and adjacent inflammatory connective tissue. Move the fiber smoothly and at a moderate speed. Debride all granulation tissue.
- You may use a fine water spray during laser treatment for rinsing.
- Remove plume and debris with the high volume evacuation.
- The total amount of time for this laser procedure is a function of the extent of the diseased soft tissue.
- In general, lase pockets 6 millimeters or less for approximately 30 seconds and lase pockets greater than 6 millimeters for 45 seconds.
- If the patient experiences noticeable discomfort, lower the power setting. Anesthetic may be administered.



Implant Exposure

Tip: Initiated 400 micron
Mode: CW
Power: 1.0 Watts
Anesthesia: Topical or as needed
Technique: Contact

Using a perio-probe or explorer, locate the cover screw for the submerged implant.

- Remove gingival tissue above the implant, using a 400µ initiated fiber and continuous wave energy to remove tissue without charring.
- Impressions can usually be taken the day of recovering the implant.

When an implant is covered with excessive tissue, inspect the area to determine how much tissue should be removed.

- Begin laser vaporization of tissue at 1.0 watt power and increase as necessary to obtain the treatment objectives and develop a tapered channel to reproduce anatomic contour and a good emergence profile for insertion of the final restoration.
- Though the diode will not spark when touching the implant, like any other procedure, it is important to direct the laser energy towards the tissue and away from the implant.



**Contouring
(Orthodontic
Application)**

Tip: Initiated 400 micron
Mode: Continuous Wave
Power: 0.8 Watts
Anesthesia: Topical or Local
as needed
Technique: Contact

- With an initiated fiber proceed to cleanly remove the tissue from the labial surface of the cuspid by lifting a flap, as in this case, or cutting a window to expose the tooth.

The Odyssey diode laser may also be used for hemorrhage control prior to bonding the bracket to the tooth.

- Prior to acid etching, remove excess blood from the area.
- Set the power to 0.8 watts, the mode to continuous wave and do not initiate the fiber tip.
- Place the fiber tip near the target wound (non-contact), lasing the bleeding area in a constant sweeping motion.
- Laser hemostatic control may require several passes of the tip over the target tissue, depending upon the extent of hemorrhage.
- Once the hemorrhage is controlled, you can proceed with predictable placement of the bracket within the same appointment.



- Finally clean any remaining tissue tags with hydrogen peroxide.

Note: There are many situations where soft tissue modification is an asset to the efficiency and effectiveness of orthodontic treatment - accelerating treatment time or simply providing an opportunity to achieve true occlusal and soft tissue balance.

**Troughing
(CAD/CAM Dentistry)**

Tip: Initiated 400 micron
Mode: Continuous Wave
Power: 0.8 Watts
Anesthesia: Topical or Local
as needed
Technique: Contact

The Odyssey Diode Laser is the perfect adjunct to fulfilling the CAD/CAM promise of a quality esthetic restoration in a single visit. Whether it is exposing a restoration margin for better detection by the optical impression or laser scan, recontouring inflamed or ragged tissue during emergency repair of one appointment restorations, or controlling hemostasis prior to adhesively cementing your restoration; the Odyssey Diode Laser is your perfect partner.

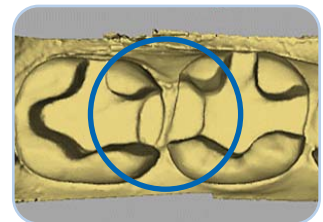
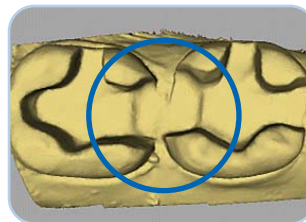
Upon completion of your preparation, you can use the Odyssey Diode Laser to expose your restoration's margins from the tissue prior to optical impression to ensure preparation margin visualization.

- To accomplish this, set the power to 0.8 watts, the mode to continuous wave and initiate the fiber tip.
- Lightly contact the sulcus lining just inside the crest of the gingiva angling the tip away from the tooth.
- Using very light pressure, begin lasing as you make small paint brush like strokes tracing the area of the tooth that needs to be exposed or where the restoration margins are not completely visible.
- Create a small trough between the tooth and gingiva.
- This will allow you to achieve a high quality optical image or scan.

Before



After



- You may also choose to recontour abnormal gingival tissue to achieve better esthetics in a fraction of the time with greater precision for outstanding results.

Learn more about The Family of Odyssey® Lasers at
www.GetOdysseyLaser.com

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