Laser Dentistry: Enhancing Dental Treatment with Lasers

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Laser dentistry can be a precise and effective way to perform many dental procedures. The potential for laser dentistry to improve dental procedures rests in the dentist's ability to control power output and the duration of exposure on the tissue (whether gum or tooth structure), allowing for treatment of a highly specific area of focus without damaging surrounding tissues.

If you consider yourself somewhat of an anxious dental patient and are seeking extreme safety and comfort, you might consider looking for dentists who have incorporated laser dentistry techniques into their practices and treatments. It is estimated that 6 percent of general dentists own a laser for soft-tissue applications, with that number expected to increase over time.

As the applications for dental lasers expand, greater numbers of dentists will use the technology to provide patients with precision treatment that may minimize pain and recovery time.

Benefits of Laser Dentistry?

Here are some of the major benefits associated with laser dentistry:

- Procedures performed using soft tissue dental lasers may not require sutures (stitches).
- Certain laser dentistry procedures do not require anesthesia.
- Laser dentistry minimizes bleeding because the high-energy light beam aids in the clotting (coagulation) of exposed blood vessels, thus inhibiting blood loss.
- Bacterial infections are minimized because the high-energy beam sterilizes the area being worked on.
- Damage to surrounding tissue is minimized.
- Wounds heal faster and tissues can be regenerated.

Application of Laser Dentistry

The application of lasers in dentistry opens the door for dentists to perform a wide variety of dental procedures they otherwise may not be capable of performing. Dentists using

lasers in dentistry have become adept at incorporating the state-of-the-art precision technology into a number of common and not-so-common procedures.

Hard Tissue (Tooth) Laser Dentistry Procedures

- **Cavity Detector:** Low intensity soft tissue dental lasers may be used for the early detection of cavities by providing a reading of the by-products produced by tooth decay.
- **Dental Fillings/Tooth Preparation:** Hard tissue dental lasers may eliminate the need for a local anesthetic injection and the traditional turbine dental drill. Lasers used in dental filling procedures are capable of killing bacteria located in a cavity, potentially leading to improved long term tooth restorations. However, dental lasers are not appropriate for the replacement of amalgam fillings, onlays or crowns.
- **Tooth Sensitivity**: Dental lasers may be used to seal tubules (located on the root of the tooth) that are responsible for hot and cold tooth sensitivity.

Soft Tissue (Gum) Laser Dentistry Procedures

- **Crown Lengthening:** Dental lasers can reshape gum tissue (soft tissue laser) and bone (hard tissue laser) to expose healthier tooth structure. Referred to as crown lengthening, such reshaping provides a stronger foundation for the placement of restorations. These can be done with no stitches, little discomfort, and heals very quickly.
- **Gummy Smile:** Dental lasers can reshape gum tissue to expose healthy tooth structure and improve the appearance of a gummy smile.
- **Muscle Attachment (Frenula):** A laser frenectomy is an ideal treatment option for children who are tongue tied (restricted or tight frenulum) and babies unable to breast feed adequately due to limited tongue movement. A laser frenectomy may also help to eliminate speech impediments.
- **Soft Tissue Folds (Epulis):** Dental lasers may be used for the painless and suture-free removal of soft tissue folds often caused by ill-fitting dentures.

Other Laser Dentistry Applications

- **Viewing Tooth and Gum Tissues:** Optical Coherence Tomography is a safer way to see inside tooth and gums in real time.
- **Benign Tumors:** Dental lasers may be used for the painless and suture-free removal of benign tumors from the gums, palate, sides of cheeks and lips.
- **Cold Sores:** Low intensity dental lasers reduce pain associated with cold sores and minimize healing time.
- **Nerve Regeneration:** Photobiomodulation can be used to regenerate damaged nerves, blood vessels and scars.
- **Sleep Apnea:** In cases where sleep apnea is a result of a tissue overgrowth in areas of the throat (which sometimes occurs with age), a laser assisted uvuloplasty

or laser assisted uvula palatoplasty (LAUP) procedure can be performed to reshape the throat and relieve the correlating breathing problems associated with sleep apnea.

- **Teeth Whitening:** Low intensity soft tissue dental lasers may be used to speed up the bleaching process associated with teeth whitening.
- **Temporomandibular Joint Treatment:** Dental lasers may be used to quickly reduce pain and inflammation of the temporomandibular jaw joint.

Lasers represent an innovative and more precise technology for specific hard and soft tissue applications. If you choose a dentist who incorporates lasers into the procedures he/she performs, you may find that you feel more comfortable and less anxiety during your treatments