

Specific Oral Bone Surgery Procedures Requiring the use of Er:YAG Laser in QSP Mode for Optimal Performance

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SUMMARY

This lecture presents modern alternatives to classical oral-surgery procedures with the use of Erbium lasers, which allow a shorter recovery period, no recurrence and no need for antibiotic protection.

A minimally invasive approach provides more predictable results in different age groups of patients, minimizing the importance of the general condition of the patient on the success of the operation.

Methods for bone augmentation and bone sculpture, with a corresponding dosage of laser energy are shown, regulating the residual low energy as needed for indirect stimulation (or non-stimulation) of the neighboring tissues. For example, upon removal of the exostoses, it is not desirable to use too high power due to saturation of the target and the influence on the underlying tissues, with the consequent risk of stimulation of new exostoses. And opposite to this - on procedures for bone augmentation, additional stimulation is desired with a view to obtaining a larger volume of bone tissue. QSP mode allows the operator to have a fine-tuned dosage according to the specific goals of each procedure.

The author has developed Er:YAG-assisted methods such as:

- Trans-gingival flapless osteoplasty - Sub-periosteal cortical stimulation with autogenous graft PRF
- Immediate replacement of the non-integrated implant.

Precise Soft-tissue Surgery with LightWalker

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SUMMARY

While the Er:YAG laser is widely and frequently used on hard tissues, it also has many applications on soft tissues. Its advantage is its low-thermal laser-tissue interaction, which provides us with minimal discomfort for the patient and fast healing. In addition to the ability to combine hard- and soft-tissue applications with the Er:YAG laser (like flapless crown lengthening, including osteotomy), the LightWalker allows us to combine complementary wavelengths (Er:YAG and Nd:YAG), thus opening the door to a truly comprehensive level of laser dentistry with healing stimulation and minimal trauma. In addition to degranulation, deepithelization, disinfection and biomodulation for periodontal and peri-implant treatments, the many joys of being a laser dentist also include frenectomies, gingivectomies, gingivoplasties, gingival over-growth removal, depigmentation and troughing, which will be demonstrated during the lecture.

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