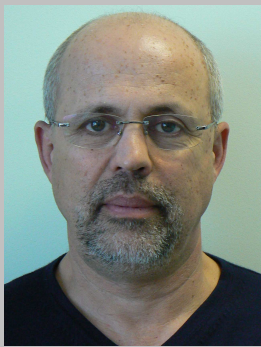


Dr. Litvak received his dental degree from the Hadassah Dental School in Israel, where he practices general dentistry using laser since 2000. He completed his Advanced Proficiency in Er:YAG lasers and is founder and co-owner of BED Laser Technologies an R&D company that develops patented Er:YAG laser technology. Dr. Litvak is also founder of the Academy of Laser Dentistry's Israeli chapter.



Er:YAG Laser-Assisted Gingivectomy After Orthodontic Treatment

Emil Litvak, DDS

A 14-year-old male in the final stages of orthodontic treatment presented with soft tissue proliferation due to orthodontic treatment and poor oral hygiene. The maxillary gingival buccal upper area was proliferated and covered about half of the surface of teeth #6-11. There was no sign of acute inflammation. The excessive tissue should be removed to improve the periodontium. The redundant tissue also adds to plaque retention and further inflammation.

Laser surgery was chosen because of its inherent minimal bleeding, reduced need for anesthesia and excellent healing. The Er:YAG laser wavelength is well suited for soft tissue surgery in situations where bleeding is not a major concern. The tip should be directed parallel to the tooth's long axis to avoid contact with the enamel. Accidental touching of the tooth surface usually results in a small surface interaction, which can be polished. During removal of gingival tissue, proper contour must be restored to avoid rebound growth. Hemostasis is usually adequate with the Er:YAG laser; however, if the tissue is highly inflamed, bleeding may be expected.

Laser source:	Er:YAG, 2940 nm
Mode:	VLP
Energy:	120 mJ
Frequency:	10 Hz
Handpiece:	R02, tipless
Water/Air Spray Setting:	none

Because of the conservative nature of this procedure, it was agreed that no anesthetic agent would be used. The laser pilot beam was aimed to a point 2 mm higher than the gingival edge on tooth #6. The procedure continued by slowly moving the handpiece on the same level for other teeth to be treated (#7, 8, 9, 10 and 11). Minimal bleeding was observed and no hemostatic procedure was needed.

The patient was released from the office 20 minutes after the procedure was completed. No signs of bleeding or charring existed. He was instructed to avoid any hard or hot food and drinks for the remainder of the day and not to brush for 24 hours. After 24 hours, he was told to brush very gently with a soft toothbrush softened even more by hot water. The patient was instructed to start use of chlorhexidine immediately after brushing, 3 times per day for 5 days, for infection control.

The patient returned after 48 hours, 5 days and 18 months for follow-up. The tissue healing progress was excellent and no sign of any complication related to the procedure was found. At 18 months, the soft tissue at the surgical site appeared healthy with no sign of swelling or proliferation.



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Before



After