ISSN 1855-9913

Journal of the Laser and Health Academy
Vol. 2014, No.1; www.laserandhealth.com

Laser-Assisted Periodontal Plastic Surgery

Boris Gaspirc
Department of Oral Medicine and Periodontology, Faculty of Medicine, University of Ljubljana

SUMMARY

Periodontal plastic surgery is designed to restore form and function to the gum tissue, periodontal ligament, and the bone that supports teeth or an individual tooth. Most periodontal esthetic procedures can be grouped into one of the following areas: crown lengthening, alveolar ridge preservation/augmentation, soft-tissue grafts, and the correction of an open interproximal space. Soft-tissue abnormalities, with the exception of the loss of the interproximal papilla, can be resolved predictably, improving aesthetics and even creating restorative opportunities. In addition to a discussion of the conventional periodontal plastic surgery, an overview of possible laser-assisted periodontal plastic surgery procedures will be presented. The use of microsurgical laser-assisted techniques has enhanced the predictability and success rate whilst also minimizing post-operative discomfort. Especially, the Er:YAG laser is safe and convenient for esthetic periodontal soft-tissue management due to clear-cut ablation of soft tissues as well as fast and favorable wound healing.

Laser-Assisted Clinical Crown Lengthening

Suzana Milavec[1] and Boris Gaspirc[2]
[1]Zdravstveni dom Sežana, Partizanska 24, Sežana
[2]Department of Oral Medicine and Periodontology, Faculty of Medicine, University of Ljubljana

SUMMARY

Crown-lengthening surgery has been categorized as aesthetic or functional. It is undertaken to enhance maxillary anterior aesthetics or to provide an adequate amount of tooth structure for proper restorative therapy. Crown-lengthening involves various techniques, including gingivectomy or gingivoplasty and an apically positioned flap procedure, which may include osseous resection and forced tooth eruption, with or without fiberotomy. Soft-tissue crown lengthening is best accomplished with an external gingivectomy. If a gingivectomy procedure is used to remove the "excess" gingiva, but the new gingival margin position is too close to the underlying bone, then the biologic width will be violated and the gingival margin will usually rebound toward its original position. Compared with the use of a conventional scalpel, lasers can cut, ablate and reshape the oral soft tissue more easily, with minimal bleeding and no need for suturing. Less wound contraction and minimal scarring are other advantages of laser surgery that are not observed in scalpel surgery. Thus, lasers are generally used for gingivectomy and gingivoplasty with some benefits when compared with the use of a scalpel or electrosurgery. In particular, the Er:YAG laser is very safe and useful for aesthetic periodontal soft-tissue management due to its clear-cut ablation of soft tissues as well as fast and favorable wound healing.