

# The treatment of prominent frenulum with diode laser 940 nm

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**\_Labial frenectomy** is a common surgical procedure in the field of oral surgery. Labial frenectomy is a procedure usually for orthodontic and prosthodontic reasons. Diode laser are portable, compact, efficient, with good bactericid and coagulation properties. Diode laser have a wavelength between 810 and 980 nm. They can be used in the continuous as well as pulsed mode with a contact or non contact handpiece.

The aim of this study was present the efficacy of diode laser 940 nm for treatment of prominent labial and lingual frenulum and to demonstrate healing characteristics after laser surgery.

## **\_Materials and methods**

Ten patients with prominent labial and lingual frenulum are included in this report (Figs. 1 & 2). All patients are treated with diode laser 940 nm in the Dental University School in Tirana, Albania. The technique of frenectomy was used under local anesthesia (lidocaine 2 % 1cc). Informed consent was obtained from all patients.

Laser settings were: fiber optic 300 micrometer, cw, 4 W. The laser fiber was applied vertically and

laterally to the frenulum initially causing disruption of the mucosa continuity This easily allowed performing a deeper cut of the frenulum in a horizontal dimension. The design of the frenectomy was rhomboid and the whole procedures were performed in about four to five minutes. No sutures were required in any cases. In addition the ice was applied to avoid the increase of tissue temperature and control necrosis in the tissue. All clinical were examined in one week, three weeks and three months after surgery. Postoperative complications such pain, bleeding, swelling, scar formation as well as wound healing characteristics were evaluated.

## **\_Results**

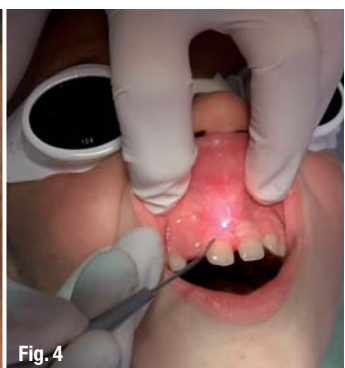
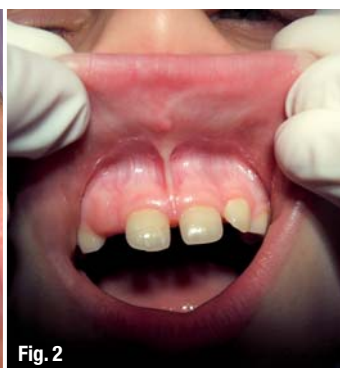
No bleeding was observed either during treatment or during the healing period (Figs. 3, 4 & 5). One week after surgery a superficial layer of fibrine was observed in all clinical cases. No postoperative pain and swelling were not recorded. Three weeks after surgery oral mucosa was completely healthy. No scar tissue formation in any case was observed. In long term follow-up the oral mucosa in all clinical cases looked normal in colour and consistence (Figs. 6 & 7).

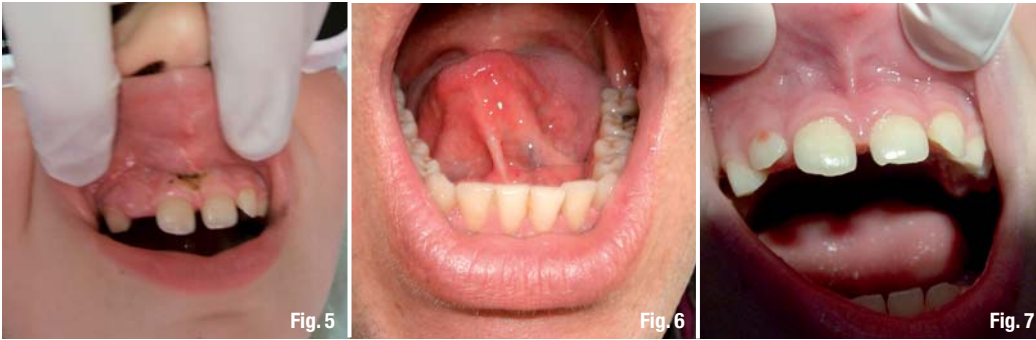
Fig. 1\_Prominent frenulum of tongue.

Fig. 2\_Prominent labial frenulum.

Fig. 3\_Moment of treatment (bleedless).

Fig. 4\_Moment of treatment (bleedless).





**Fig. 5** Immediately after the treatment.  
**Fig. 6** Healing after three months (follow-up).  
**Fig. 7** Healing after three months (follow-up).

**\_Discussion**

Frenectomy is a common procedure in the field of oral surgery. The advantages of laser surgery include higher precision, less pain, bleeding, swelling and scarring. The procedure is quick, safe, easy to perform in an outpatient set and no sutures are required. All patients were satisfied with the treatment and the results obtained. Diode laser is of beneficial effects like small, compact, portable to move easily from operator to operator.

**\_Conclusion**

The technique of frenectomy is easy, fast and

safe to be performed with diode laser 940 nm. It could be done in outpatient clinic with local anesthesia, with good degree of acceptance by the patients and perfect results.

**\_contact**

**laser**

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