

PubMed

**Format:** Abstract

Full text links

J Lasers Med Sci. 2018 Summer;9(3):207-211. doi: 10.15171/jlms.2018.37. Epub 2018 Jul 28.



# The Impacts of Low-Level Laser Therapy - A Complementary Treatment in the Management of Side Effects After Implant Surgery.

Safdari R<sup>1</sup>, Pouremadi N<sup>1</sup>, Talebzadeh E<sup>2</sup>, Mottaghi A<sup>3</sup>, Amini S<sup>4</sup>, Hossienzadeh A<sup>2</sup>, Movahedian Attar B<sup>5</sup>.

## Author information

- 1 Islamic Azad University, Isfahan (Khorasgan) Branch, Isfahan, Iran.
- 2 Department of **Oral** and Maxillofacial **Surgery**, School of Dentistry, Islamic Azad University, Isfahan (Khorasgan) Branch, Isfahan, Iran.
- 3 Department of **Oral** Diseases, School of Dentistry, Islamic Azad University, Isfahan (Khorasgan) Branch, Isfahan, Iran.
- 4 Department of Periodontics, School of Dentistry, Islamic Azad University, Isfahan (Khorasgan) Branch, Isfahan, Iran.
- 5 Dental Implant Research and Department of **Oral** and Maxillofacial **Surgery**, School of Dentistry, Isfahan University of Medical Science, Isfahan, Iran.

## Abstract

**Introduction:** One of the most important medical applications of **laser** is low-level **laser therapy** (LLLT). In this method, **laser** radiation penetrates easily into the target tissue. The aim of this study was to investigate whether LLLT can reduce the side effects of advanced implant **surgery**.

**Methods:** In this triple-blind clinical trial, 30 patients aged 25 to 65 years were selected for implant insertion and divided into two groups. In the **laser** group, immediately after the **surgery**, 72 hours and 1 week after the **surgery**, the **surgical** site was irradiated with an 830 nm **laser**. The dose required for the **laser therapy** was 5 J/cm<sup>2</sup>. The degree of pain, facial swelling and wound healing were analyzed using statistical methods. **Results:** Our results showed that at 12, 24, 48, and 72 hours after the **surgery**, the pain level was reduced in the **laser** group compared with the placebo group ( $P<0.05$ ). Swelling of the face was also significantly reduced 7 days after **surgery** in the **laser** group ( $P<0.05$ ). The investigation on the recovery conditions of the **surgical** site showed that on the 3rd, 7th and 14th days after the **surgery**, higher levels of wound healing have been achieved ( $P<0.05$ ). **Conclusion:** Our results suggest that **laser**, as a complementary **therapy**; can be used to reduce the severity and duration of pain. Also, **laser** can reduce facial swelling and

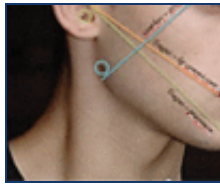
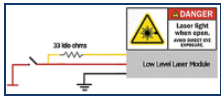
accelerate wound healing.

**KEYWORDS:** Implant failure; Low-level **laser therapy**; Side effects; Sinus lift; Wound healing

PMID: 30809333 PMCID: [PMC6378357](#) DOI: [10.15171/jlms.2018.37](#)

**Free PMC Article**

**Images from this publication.** [See all images \(4\)](#) [Free text](#)



**LinkOut - more resources**

