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# Clinical Evaluation of 660 Nm Diode Laser Therapy on the Pain, Size and Functional Disorders of Recurrent Aphthous Stomatitis

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PMID: 31198466 PMCID: [PMC6542398](#) DOI: [10.3889/oamjms.2019.268](#)

## Abstract

**Background:** Minor recurrent aphthous stomatitis (MiRAS) is one of the most common, recurrent, and painful mucosal pathological condition. It is characterised by round or shallow oval ulcers, less than 10 mm in diameter, surrounded by a thin erythematous halo. It involves non-keratinized mucosa such as the labial and buccal mucosa, the ventral surface or borders of the tongue and the floor of the mouth, but it is uncommon to occur on the keratinised mucosa. It heals spontaneously within 10-14 days without scarring. There is no curative remedy to prevent its recurrence; also, available modalities only reduce the symptoms and severity of the lesion.

**Aim:** Since these lesions may be extremely painful, we decided to estimate the pain-relieving and healing properties of low energy level laser therapy using diode laser 660 nm on MiRAS.

**Material and methods:** Twenty healthy patients suffering from minor aphthous ulcers were randomly selected from the Out-Patient Clinic of Oral Medicine Department, Faculty of Dentistry, Alexandria University. They were equally divided into two groups, study group who received 660 nm diode laser irradiation while the control group received placebo (sodium bicarbonate rinse). The visual analogue scale, size reduction, effectiveness indices and functional disorders were compared between the groups.

**Results:** Both groups presented a statistically significant difference from baseline to follow up periods. But, diode laser 660 nm treatment showed more remarkable improvements in reduction of healing time, pain and lesion size.

**Conclusion:** We concluded that diode laser 660 nm should be further considered as an effective alternative therapeutic regimen to patients who suffer from recurrent aphthous stomatitis.

**Keywords:** Diode Laser 660 nm; Minor Aphthous Ulcers; Recurrent Aphthous Stomatitis Treatment.

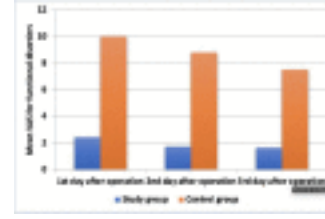
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**Figure 2** 5 The measurements of the largest...



**Figure 3** 5 Comparison of functional disorders between...



**Figure 4** 5 Preoperative and postoperative treatment of...



**Figure 5** 5 MiRAS in lower labial mucosa...

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