

Short Communication

mILIB - A NEW CONCEPT IN LASER THERAPY

mILIB – Un nuevo concepto en Laserterapia

HERMES PRETEL, DDS, MSc., PhD. 

Department of Restorative Dentistry, Araraquara School of Dentistry, São Paulo State University–UNESP, Araraquara, São Paulo, Brazil

Autor de correspondencia: Hermes Pretel, DDS, Msc., PhD
Email: hermes.pretel@unesp.br

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ABSTRACT

mILIB (Intravascular Laser Irradiation in the Modified Bloodstream) presents itself as one more photobiomodulation technique, among the many therapeutic possibilities we know. The advantage in this case is the possibility of making application in a systemic way in which the organism as a whole is benefited. The use of the red therapeutic laser in a transcutaneous way, has been a great option as an added therapeutic value to the treatment of several pathologies, providing systemic stimuli, similar to hemotherapy. Thus, mILIB presents itself as an effective and increasingly widespread technique for professionals working with photobiomodulation.

Keywords: Photobiomodulation; Laser therapy; red therapeutic laser; Intravascular Laser Irradiation

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The use of the red therapeutic laser in a transcutaneous way, has been a great option as an added therapeutic value to the treatment of several pathologies, providing systemic stimuli, similar to hemotherapy, which have promoted an anti-oxidant action (anti-aging therapy), increase of oxygen saturation (attenuating pulmonary disorders such as pneumonias, bronchitis, emphysemas, asmas, etc), improvement of hemorrheological capacity of red blood cells (control of cardiovascular changes), activation of the immune system (increased expression of immunoglobulins and interleukins), alteration of pain threshold (increased release of endorphins and encephalins with, consequently, analgesic action in chronic pain) and acceleration of repair processes in post-operative (Lee *et al.*, 1982; Benedicenti, A. *et al.*, 1984; Karu, 1989).

It is important to emphasize the protocols suggested for the treatments are performed with red therapeutic laser (660 nm, 100 mW of power). The protocols should be performed every 24 hours,

during 5 consecutive days. The application time varies from 5 to 30 minutes depending on the patient's needs, and the monitored responses of each patient. Then a reevaluation is performed to evaluate the patient to start a new cycle. The applications are performed optionally with the aid of a laser bracelet directed to the radial artery (fig1).

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Figure 1.

Laser device positioned in the radial artery for the mILIB technique.



References

- Benedicenti, A. *et al.* (1984). Effect of a 904 nm laser on microcirculation and arteriovenous circulation as evaluated using telethermographic imaging. *Parodontol. Stomatol. (Nuova)*, Savonna, v.23, n.2, May-Aug, p.167-78.
- Karu T. I. (1989). Laser biostimulation: a photobiological phenomenon. *J Photochem 135 Photobiol.* 3: 638-9. [https://doi.org/10.1016/1011-1344\(89\)80088-0](https://doi.org/10.1016/1011-1344(89)80088-0)
- Lee G, Ikeda RM, Dwyer RM, Hussein H, Dietrich P, Mason DT. (1982). Feasibility of intravascular laser irradiation for in vivo visualization and therapy of cardiocirculatory diseases. *Am Heart J.* Jun 2;103(6):1076-7. [https://doi.org/10.1016/0002-8703\(82\)90576-2](https://doi.org/10.1016/0002-8703(82)90576-2)

RESUMEN

mILIB (Irradiación láser intravascular en el torrente sanguíneo modificado) se presenta como una técnica de fotobiomodulación más, entre las muchas posibilidades terapéuticas que conocemos. La ventaja en este caso es la posibilidad de realizar una aplicación de forma sistémica en la que se beneficia al organismo en su conjunto. El uso del láser terapéutico rojo de forma transcutánea, ha sido una gran opción como valor terapéutico añadido al tratamiento. de varias patologías, proporcionando estímulos sistémicos, similar a la hemoterapia. Así, mILIB se presenta como una técnica eficaz y cada vez más extendida para los profesionales que trabajan con fotobiomodulación.

Palabras clave: Fotobiomodulación; Terapia Láser; Láser Terapéutico Rojo; Irradiación láser intravascular.
