**Evaluation of the effects of photobiomodulation on pain, edema, paresthesia and bone regeneration following surgical maxillary disjunction: protocol for a randomized controlled double-blind clinical trial**

**Names:**

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The aim of the proposed study is to evaluate the efficacy of LED devices regarding the control of pain, edema, paresthesia and bone repair following surgical maxillary disjunction. The secondary aims are to evaluate the degree of anxiety and the impact of the surgical procedure on quality of life. A randomized, controlled, double-blind clinical trial will be conducted with 72 patients. The procedures will be performed by 3 surgeons. Two examiners blinded to the allocation of the patients to the different experimental groups will perform the preoperative and postoperative evaluations and another researcher will administer PBM. Prior to each surgery, five facial measurements, a periapical radiographic exam, facial and oral sensitivity tests and an evaluation of anxiety (Beck questionnaire and determination of salivary IL-1β, IL-6, TNF-α and cortisol) will be performed. Immediately after the surgeries, the participants will be randomly allocated to the active and sham PBM groups. In the active group, the participants will receive nine applications of PBM (immediate postoperative period, 1-120 days) with a facial device (57 LEDs at 660 nm and 74 at 850 nm, 5 mW; 6J per point) and an intraoral device (3 LEDs at 660 nm, 5 mW; 2J per point). In the sham group, irradiation will be simulated. Data will be collected in periods up to 120 days after surgery, depending on the variable analyzed. A normality test will be used to determine the appropriate statistical tests for each dataset, with the level of significance set to 5%.

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**Biography:**

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