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## Prevention of abdominal adhesions and healing skin after peritonectomy using low level laser

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**Background:** Adhesions commonly occur after abdominal surgery and can cause bowel obstruction, chronic abdominal pain and infertility. Their prevention remains a challenge.

**Objectives:** To evaluate the effects of the application of low-level lasers on the prevention of adhesions and scarring of the skin after peritonectomy.

**Method:** 24 New Zealand breed male rabbits, approximately 2 months of age, were randomly divided into 3 groups (n=8): GC—control group not subjected to laser, GL1—group with laser application at a dose of 0.2 J, and GL2—group with laser application at a dose of 3.6 J. All animals performed peritonectomy. After 14 days postsurgery, the animals were killed and adhesion formation was evaluated qualitatively and quantitatively. Differences were considered significant at  $P < 0.05$ .

**Results:** The adhesion formation was observed in 100% of the rabbits from groups GC and GL1, as compared to 37.5% of the rabbits from group GL2 ( $P < 0.01$ ). The evaluation of the vascularization and tenacity of adhesions among the groups showed no significant difference. In groups GC and GL1, 72% and 83% of adhesions were verified between viscera, respectively where as in GL2 occurred among abdominal wall. The tensile strength of the skin between the groups was not significant ( $P = 0.3106$ ). The resistance of abdominal wall segments without skin segments between groups GL2 and GC were higher than in GL1 ( $P = 0.01$ ).

**Conclusion:** Low-level laser is effective in preventing intra-abdominal adhesions in rabbits without compromising strength and healing of the abdominal wall

### Biography

Mara Duffles graduated in Physical Therapy from the University Salgado de Oliveira (2007) and a degree in Law from the Catholic University of Minas Gerais (1990). She has obtained Master's in 2012. She took training in Acupuncture, Clinical Pharmacology and in traditional Chinese medicine, both with the title of specialist, Manual Therapy in Pathologies Cranio-cervical, Cranio-mandibular and Facial Pain by Rocabado Method and Manual Therapy by Busquet Physiological Chains Method as well as improvement in laser therapy Low intensity from the Federal University of Minas Mines.

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