



**Research title:**

“Evaluation of the right hip range of motion before and after osteopathic manipulative therapy on patients with scars due to appendectomy.(laparotomy)”

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## ABSTRACT

**Background:** Adhesion after surgeries due to scars are common and are the main cause of direct and indirect pains, decreased range of motions (ROM) and posture changes and suddenly this should be considered as a frequent health issue and should be kept in consideration. The association of the osteopathic manipulative treatment (OMT) on post-appendectomy scar and its effect on the right hip ROM has not been analyzed. The purpose of this study is to evaluate whether or not the fascial OMT can change the right hip ROM in patients who undergone appendectomy.

**Methods:** A total of 20 male participants who undergone appendectomy were evaluated. Ten of them were treated with OMT and the others with Placebo. All participants underwent passive hip flexion, abduction, adduction, internal and external rotation ROMs three times. First evaluation before OMT (or placebo), second immediately after OMT and the third after 1 week from OMT.

**Results:** In both groups left hip joint ROM were greater than the right one. Before the treatments the ROM of both group were: Flexion O 34,6°; P 34,1°, Adduction O 13,9°; P 16,4°, Abduction O 28,3°; P 27,9°, Internal Rotation O 16°; P 14,5°, External Rotation O 32,5°; P 33°.

After the OMT (or placebo) there was a significant difference in the ROM of both groups: the group treated with OMT (O) improved its ROM instead of the placebo group (P) → Mean → Flexion= O 38,8°; P 34°, Adduction= O 14,2°; P 16,4°, Abduction= O 29,3°; P 27,9°, Internal Rotation= O 20,5°; P 14,4°, External Rotation= O 33,45°; P 28,4°.

Flexion, Adduction and Internal Rotation were the most significant ROM improvement in the group who undergone OMT after the second evaluation. The group who underwent Placebo didn't have any important changes in right hip ROM. After one week, in the third and last evaluation, the OMT group had still some significant improvements in the right hip ROM, specifically in the flexion, adduction and internal rotation movements.

**Conclusions:** This study showed an improvement of the right hip ROM in the group who undergone the OMT and this could be possible the proof that OMT may be used to treat the scar adhesion and to improve the ROM.