

## Short-term effects of high-intensity laser therapy, manual therapy, and Kinesio taping in patients with subacromial impingement syndrome.

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### Abstract

Subacromial impingement syndrome (SAIS) is a major contributing factor of shoulder pain; and treatment approaches (Kinesio® taping [KT], Exercise [EX], manual therapy [MT], and high-intensity laser therapy [HILT]) have been developed to treat the pain. The key objective of this study was to compare the effects of KT, MT, and HILT on the pain, the range of motion (ROM), and the functioning in patients with SAIS. Seventy patients with SAIS were randomly divided into four groups based on the treatment(s) each group received [EX (n = 15), KT + EX (n = 20), MT + KT + EX (n = 16), and MT + KT + HILT + EX (n = 19)]. All the patients were assessed before and at the end of the treatment (15th day). The main outcome assessments included the evaluation of severity of pain by visual analogue scale (VAS) and shoulder flexion, abduction, and external rotation ROM measurements by a universal goniometry. Shoulder pain and disability index (SPADI) was used to measure pain and disability associated with shoulder pathology. Statistically significant differences were found in the treatment results of all parameters in MT + KT + EX and HILT + MT + KT + EX groups ( $p < 0.05$ ). When the means of ROM and SPADI results of three groups were compared, statistically significant differences were found between all the groups ( $p < 0.05$ ). These differences were significant especially between the groups MT + KT + EX and KT + EX ( $p < 0.05$ ) and HILT + MT + KT + EX and KT + EX ( $p < 0.05$ ). HILT and MT were found to be more effective in minimizing pain and disability and increasing ROM in patients with SAIS. Further studies with follow-up periods are required to determine the advantages of these treatments conclusively.

**KEYWORDS:** Laser; Manual therapy; Shoulder; Taping

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