The Effect of Stretch Tape (Pain-free Tape) on Pain Relief

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Introduction

- The purpose of this study was to examine the effects of pain free tape developed by Fujita on pain relief caused by musculoskeletal disorders.
- This study examined whether the application of pain-free tape had fast-acting effects on pain relief.

Methods

- Research participation: Involved seven therapists (research collaborators) from three hospitals endorsing the research project and 46 outpatients participated in this study. Outpatient eligibility was restricted to those suffering from musculoskeletal pain when conducting joint movements.
- A research briefing was given to the research collaborators beforehand, with an orientation on the study procedures and the method of tape application.
- Furthermore, the following patients were removed from the eligibility pool: (1) those patients experiencing sensory paralysis due to central nervous diseases or peripheral nerve damage, other patients with neurological abnormalities affecting sensory nerves, patients with mental disease, and those who did not give their assent to the study; (2) those who were unable comprehend the questions asked during the study and/or improperly filled out the record forms; (3) patients who were unable to carry out tasks due to aphasia or cognitive impairment.

Measurement procedure 1

Pre-Taping Evaluation and Measurement:

(1) Patients were asked to conduct active movement in the direction of pain.

(2) They were at the end range asked about the pain area and pain strength.

(3) The range of motion of active movement was measured using a joint goniometer and the level of pain was measured using a verbal scale of values from one to ten.

Measurement procedure 2

Decide trigger point:

(1) Finger palpations were used on the painful region to determine a point of maximal pain (trigger point).

(2) Continual pressure was applied to the trigger point while also shifting the pressure in all directions in order to determine which direction reduced the pressure induced pain the most.

Measurement procedure 3

Tape Application:

(1) Pain-free tape was applied from the trigger point in the direction that reduced pain.

(2) After application, the tape was rubbed two to three times to allow it to attach to the skin.

Measurement procedure 4

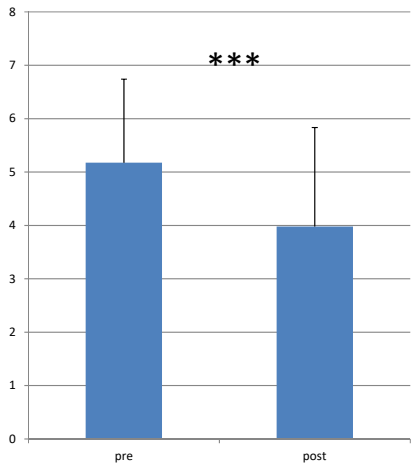
Evaluation Measurements:

After pain-free tape application, the patient's joint was moved in the same direction as during the baseline and the range of motion as well as the location and strength of the pain at end range was measured.

Results 1
Pain strength

This study considered the effect of taping on the two factors of "pain area and pain strength" and the "range of motion of active movement."

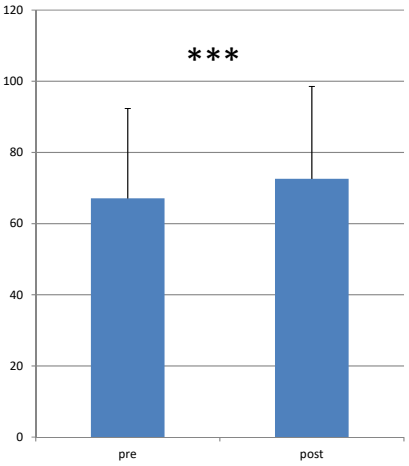
(1) For the strength of pain at the end range of active movement, there was a significant decline from an average of 5.1 points prior to application to 3.9 points after application(T-test, $p<0.0001$).



Vertical axis = numerical scale / 10

Results 2
%ROM

(2) For the effect of taping on the range of motion of active motion, there was a significant increase from an average 72.9 degree to 76.6 degree(T-test,P<0.0001).



Vertical axis = % ROM(actual / reference ROM)

Considerations and Conclusion

- In considering the effect of stretch tape on pain and range of motion, the application of tape was found to be effective.
- This effect may be due to the inhibition of the spinal cord through stimulation of the skin's mechanoreceptors.