NO EFFECT OF KINESIOLOGY TAPE ON PASSIVE TENSION, STRENGTH OR QUADRICEPS MUSCLE ACTIVATION OF DURING MAXIMAL VOLUNTARY ISOMETRIC CONTRACTIONS IN RESISTANCE TRAINED MEN

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ABSTRACT

Background: Kinesiology Tape (KT) is widely used in sports rehabilitation and by those performing physical activity, however, there is no consensus in the scientific literature about its effectiveness on performance, strength or muscle activation.

Purpose: The purpose of this study was to measure the acute effects of KT in static rest, and during knee extension maximal voluntary isometric contraction (MVIC) performance in resistance trained men.

Study Design: Observational, descriptive, comparative.

Methods: Eighteen young, healthy, trained males (age: 25±6 years, height: 176.0±5 cm, and mass: 81.8±8.0 kg) volunteered to participate. Initially, they were in a relaxed sitting position of 90 degrees knee flexion with their limb supported by the machine lever arm to measure passive tension of the tissues of the knee joint. Then, they performed three MVIC trials of five seconds each with a three-minute rest between trials, in four randomized experimental conditions, with 10-min rest between conditions: (a) control, no taping; (b) Knee Sleeve; (c) KT; and (d) sham. During all MVICs, peak force, impulse, and muscle activation of the vastus lateralis (integrated electromyography [IEMG] and median frequency) were measured.

Results: Repeated measures ANOVAs revealed no statistical differences between conditions for passive tension ($p>0.05$), peak force ($p>0.05$), impulse ($p>0.05$), IEMG ($p>0.05$), or median frequency ($p>0.05$).

Conclusion: KT does not influence passive tension during static position at 90 degrees of knee flexion. KT does not affect quadriceps activation or force production during a maximal voluntary isometric contraction in the same position.

Level of Evidence: 3a

Keywords: Electromyography, force, kinesiology tape, muscle performance, quadriceps.

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Conflict of Interest Statement: All authors report no conflicts of interest.

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