

ABSTRACT

Thesis title: The Effect of Taping Applied to the Skin with the Orientation along the Muscle Fibres of Underlying Muscle on the Activity of this Muscle

Problem definition: Taping (the application of an adhesive elastic tape on the body surface) is a widely used therapeutic and preventive method in current sport, clinical and ADL practice. Previous research indicate that taping has effect on pain, proprioception, muscle activity and lymphatic or peripheral vascular circulation. One of the least objectively evaluated effect of taping is the effect on muscle activity. Although the facilitating or inhibiting effect of the tape achieved by the direction of its tension made by the application (from the muscle origin to the insertion or conversely) is commonly referred in available literature, it has not been investigated objectively enough.

Objectives: The aim of the study was to evaluate the current findings of the taping method on the base of literature research, formulate hypotheses, work out a quality methodology for the clinical study and through it to evaluate the effect of taping applied to the skin with the orientation along the muscle fibres of underlying muscle on the activity of this muscle.

Methods: The evaluation of the findings of the taping method with emphasis on the quality of provided evidence has been made by systematic review. The clinical study itself included 20 deliberately selected healthy subjects (8 women and 12 men, at the age of 21 – 40 years, average age 29,2 years) doing recreational sports. The effect of a tape applied in two ways (with the direction of tension from the beginning to the insertion of the underlying muscle or conversely) to the skin with the orientation along the muscle fibres of underlying muscle on the initial level of activity and incoming fatigue of this muscle was assessed compared with the stage without taping during three minutes of continuous isometric contraction at 30% MVC (Maximal Voluntary Contraction) by the median frequency of surface electromyography signal. As a measured muscle, m. biceps brachii of the non-dominant upper limb was elected. Obtained data were tested from the perspective of practical and statistical significance.

Results: In the final evaluation 19 subjects (8 women and 11 men, at the age of 21 – 40 years, average age 29 years) were included. The results revealed no statistical or practical significance of the influence of those two examined ways of taping on initial level of activity and incoming fatigue of underlying muscle.

Key words: taping, muscle activity, surface electromyography, m. biceps brachii