

中山醫學大學 100 學年度碩士班入學招生考試試題

醫學檢驗暨生物技術學系碩士班 (乙組)

考試科目：物理治療總論

時間：80 分鐘

※請注意本試題共(2)張，如發現頁數不足，應當場請求補齊，否則缺頁部份概以零分計算。第 (/) 頁

本試題共 五 大題，總分 100 分。

一、請閱讀以下的【英文摘要】後，以 200-300 字簡單描述摘要內容(30%)

Effects of Kinesio Tape Compared With Non-Elastic Sports Tape and the Untaped Ankle During a Sudden Inversion Perturbation in Male Athletes.

STUDY DESIGN: Controlled laboratory study.

OBJECTIVES: To examine the effect of 2 adhesive tape conditions compared to a no tape condition on muscle activity of the fibularis longus during a sudden inversion perturbation in male athletes (soccer, team handball, basketball).

BACKGROUND: Ankle sprains are common in sports and the fibularis muscles play a role in providing functional stability of the ankle. Prophylactic ankle taping with non-elastic sports tape has been used to restrict ankle inversion, while kinesio tape is elastic and has not been studied for that purpose.

METHODS: Fifty-one male premier-league athletes were tested for functional stability of both ankles with the Star Excursion Balance Test. Based on the results, those with the 15 highest and those with the 15 lowest stability scores were selected for further testing. Muscle activity of the fibularis longus was recorded with surface electromyography during a sudden inversion perturbation. Each participant was tested under 3 conditions; with the ankle taped with non-elastic, white sports tape, kinesio tape, and with no tape. Differences in mean muscle activity were evaluated with a 3-way mixed model ANOVA for the 3 conditions across four 500 ms time-frames (within subject factors) and between the 2 groups of stable versus unstable participants (between subjects factor). Differences in peak muscle activity and in the time to peak muscle activity were evaluated with a 2-way mixed model ANOVA for the 3 conditions (within subjects factor), between the 2 groups (between subjects factor).

RESULTS: Significantly greater mean muscle activity was found when ankles were taped with non-elastic tape compared to no tape, while kinesio tape had no significant effect on mean or maximum muscle activity compared to the no tape condition. Neither stability level

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nor taping condition had a significant effect on the amount of time from perturbation to maximum activity of the fibularis longus muscle.

CONCLUSION: Non-elastic sports tape may enhance dynamic muscle support of the ankle. The efficacy of kinesio tape in preventing ankle sprains via the same mechanism is unlikely as it had no effect on muscle activation of the fibularis longus.

二、請為一位肥胖者設計一個適當的運動處方(20%)

三、請說明人體維持站立及姿勢平衡的過程，並舉例說明平衡訓練的方式(30%)

四、請您簡單的描述「設計並進行一個研究計畫的過程」(10%)

五、請舉兩個您常搜尋物理治療文獻的電子資料庫名稱(10%)