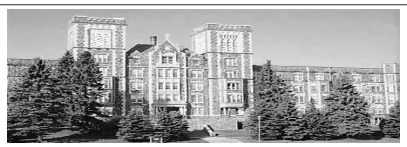

The effects of an ankle taping technique on balance and a reaching task while standing on one leg in subjects who have ankle instability

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the infamous one

Background:

- Ankle sprains constitute 10-15% of all sport injuries; 70-80% suffer a recurrent sprain (Yeung et al., 1994)
- 40% of these may lead to functional ankle instability (FAI) (Safran et al., 1999)

Functional Ankle Instability

"recurrent ankle sprains and/or a recurrent feeling of giving way" (Freeman, 1965)

FAI

- Ligamentous Laxity (Hinterman et al, 2002;Liu et al., 2001)
- Muscular weakness (Tropp et al., 1986;Willems et al., 2002)
- Proprioceptive deficits (Lentell et al., 1995;Refshauge et al., 2003)
- Impaired Balance (Fu & Hui-Chan, 2005;Tropp et al., 1984)
- May be a positional fault (Kavanagh, 1999; Hubbart et al., 2006;Mavi et al., 2002)
- Increase in postural sway FAI (Tropp & Odenrick, 1988, Tropp, 1985)

Ankle Taping

- Mechanical stability (Lohrer HA et al., 1999; Rarick et al., 1962)
- Proprioceptive role (Karlsson J & Andreasson, GO, 1994; Robbins et al., 1995)
  **poor methodological quality
- Fibular taping decreased number of ankle injuries in healthy BB players (OR=.2) (Moiler, et al., 2006)
- Case study: fibular taping promoted a decrease in lateral ankle pain (O'Brien & Vicenzino, 1998)

Mulligan approach

When the foot is inverted beyond its normal range, the fibula is wrenched forwards on the tibia at the inferior tibiofibular joint resulting in a positional fault

(Mulligan, 1995)

Mulligan TAPING approach

Correct an anterior positional fault of the fibular and also maintain correct fibular alignment.

(Mulligan, 1999)

Purpose

Evaluate the immediate effects of fibular taping on balance and functional reach measures in persons with chronic FAI

Methods:

- Subject recruitment: College of St. Scholastica and outpatient orthopedic clinics SMDC Health System
- Consent, CAIT, intake questionnaire
- Randomized conditions: uninvolved, involved, sham and fibular taping
- Force platform 15 second trials
- Star Excursion test: anterior, medial and posterior

Inclusion/Exclusion Criteria

Inclusion:

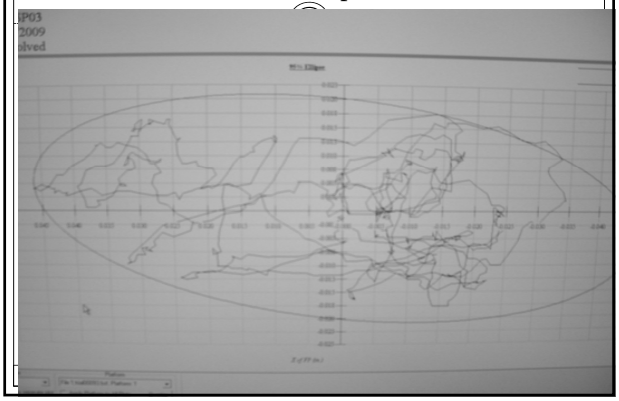
- Ages 18-50 y/o
- Rolling 2-3 times within last 2 years
- Unilateral involvement

Exclusion:

- Signs of discoloration or edema
- EtOH within 24 hours
- Hx LE surgical intervention
- Current orthopedic complaints in LE
- Neurologic involvement (i.e. dizziness)

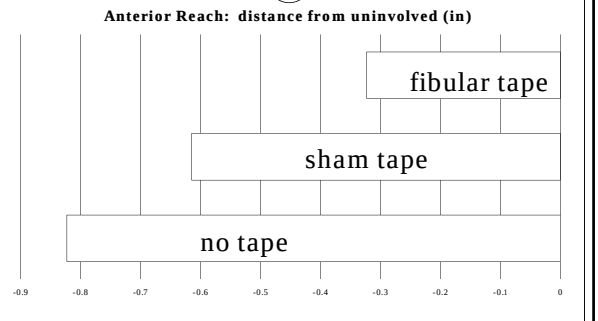
Mulligan taping procedure

95% Ellipse

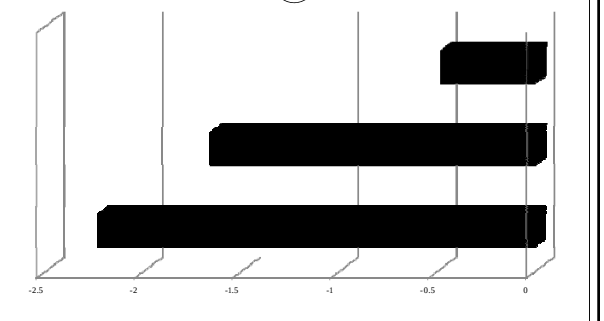


Results

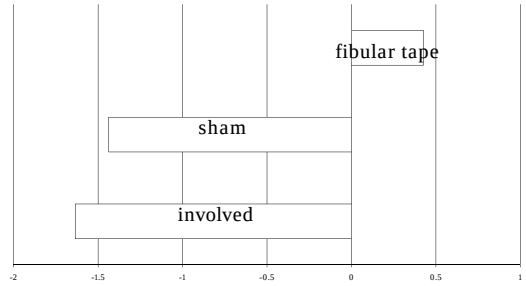
Star Excursion Test: Anterior (n=5)



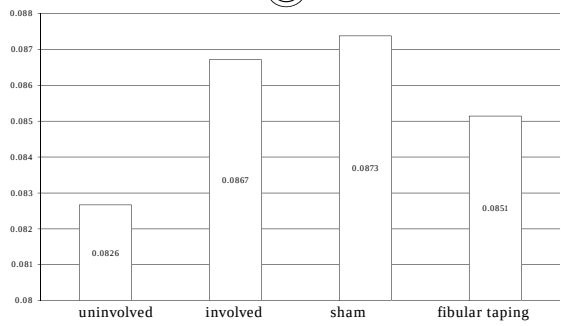
Star Excursion Test: Lateral



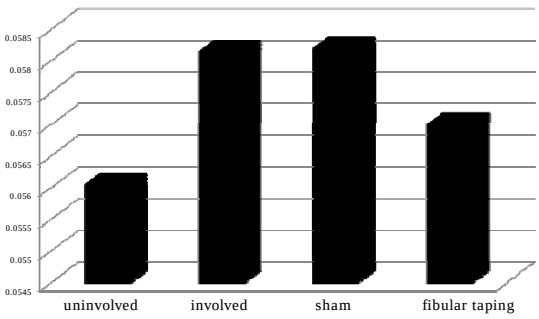
Star Excursion Test: Posterior (in)



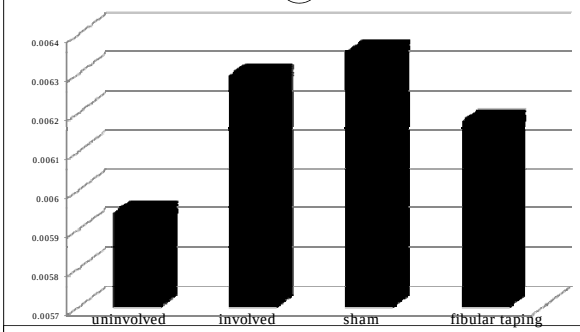
Average M/L COP (in)



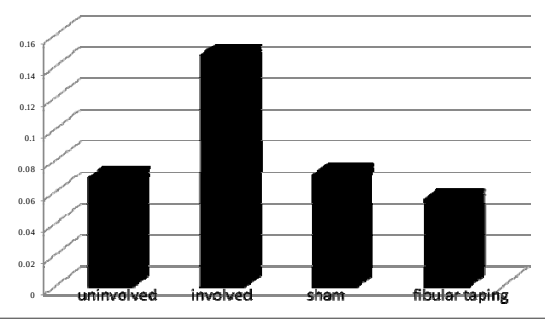
Average A/P COP



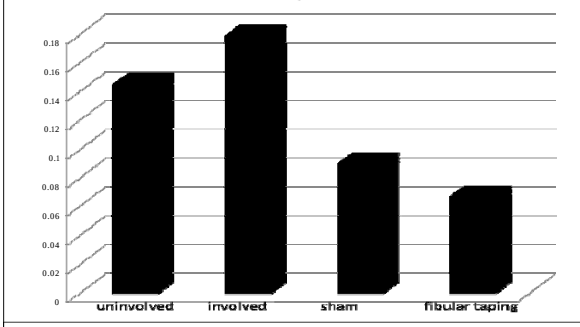
95% Ellipse Average (in^2)



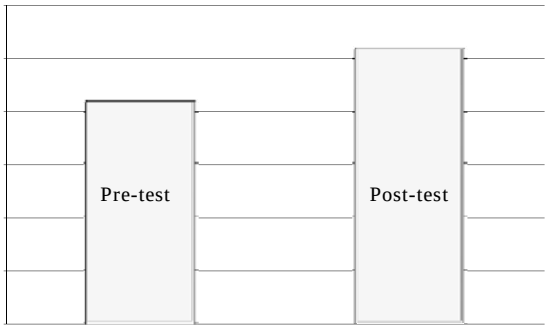
M/L COP changes Subject #3



A/P COP changes (in) Subject #7

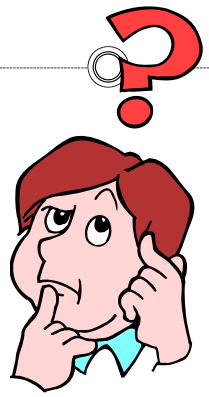


CAIT scoring



Discussion/Limitations

- Trend is seen in decreasing postural sway, increasing functional LE reach and decreasing short-term sx
- FAI subjects may demonstrate a high variability in ankle deficits (Santos & Liu, 2008)
- Similar findings from other researchers finding improvements with fibular taping
- Small subject number
- Short-term effects only



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