

Manual Massage Compared to Instrument Assisted Percussive
Massage Effects Related to Acute DOMS and
Range of Motion in Collegiate Track Athletes

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INTRODUCTION

- Micro-traumas cause delayed on-set muscle soreness (DOMS)
- Massage provides pressure that decreases neutrophil margination, thereby reducing inflammation and thus DOMS (Hilbert, 2003).
- Percussive massage uses vibrations and percussion to increase circulation and blood flow
- Increased blood flow relieves muscle pain, stiffness, and soreness

PURPOSE

- To determine if instrument assisted percussive massage had more of an effect on DOMS than manual massage
- To determine the duration of percussive massage effects
- To determine the massage method that is perceived to have the greater effects

Subjects

- 28 collegiate track and field athletes
- Full practice participation

Equipment

- Hypervolt percussive device
- Originally designed survey assessing perceived effects of manual and percussive massage techniques
- 10-point pain scale

METHODS

- Treatment administered after eccentric exercise
- Manual effleurage massage performed on the right hamstring and instrument assisted percussive massage device performed on the left hamstring for two minutes each
- Subjects rated pain level pre- and post-treatments and post-24 hours
- Hamstring range of motion assessed pre, post, and post 24 hours of treatment

RESULTS

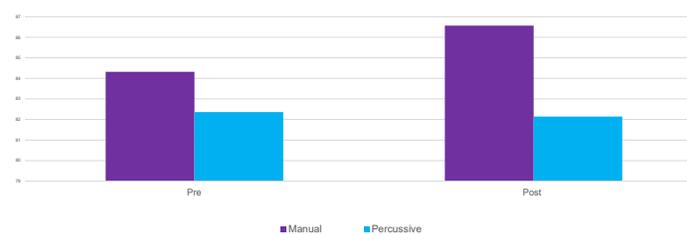
- Reduction in pain immediately following each treatment technique
- Post 24 hours, manual massage showed significance ($p = 0.03$) in pain reduction
- Significance ($p = 0.02$) found in hamstring ROM immediately following treatment of the manual massage
- No significance ($p=0.38$) with percussive massage and ROM effect
- Subjects reported feeling more pain relief with manual effleurage massage longer than with percussive massage

CONCLUSIONS

- Manual effleurage massage has greatest long term effect on decreasing muscle soreness
- Manual effleurage massage has greatest short term effect on hamstring flexibility when compared to percussive massage



Hamstring ROM Before and Immediately Post Treatment



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