ABSTRACT

**Background:** Myofascial decompression (MFD), or cupping, and self-myofascial release (SMR) are common techniques utilized to treat soft tissue injuries and increase flexibility. MFD is a negative pressure soft tissue treatment technique using suction to manipulate the skin and underlying soft tissues. One method of SMR is a foam roller, where a patient rolls his/her bodyweight over a dense foam cylinder in a self-massaging fashion to mobilize soft tissues for the body part treated.

**Hypothesis/Purpose:** The purpose of this investigation was to examine the acute effects on hamstring flexibility and patient-rated outcome measures comparing two soft tissue treatments, 1) MFD, and 2) a moist heat pack with SMR using a foam roller in patients with diagnosed hamstring pathology.

**Study Design:** Pilot randomized controlled trial study.

**Methods:** Seventeen collegiate athletes [13 males (20.6 +/- years; 184.9 +/- cm; 90.8 +/- kg) and 4 females (20.5 +/- years; 167.1 +/- cm; 62.7 +/- kg)] with diagnosed hamstring pathology (mild strain and/or symptoms of tightness, pain, decreased strength, and decreased flexibility) were randomly assigned to receive MFD or SMR. The MFD group (n=9) received three minutes of static treatment using six plastic-valve suction cups along the hamstrings followed by 20 repetitions of active movement with cups in place. SMR (n=8) received 10 minutes of heat treatment over the hamstrings followed by 60 seconds of general mobilization over the entire hamstring area, and 90 seconds of targeted foam rolling on the area of most perceived tightness. Passive hamstring flexibility (ROM) and a patient-rated outcome measure [Perceived Functional Ability Questionnaire (PFAQ)] were assessed before and immediately after treatment. The Global Rating of Change measure (GROC) was administered post-intervention.

**Results:** Passive ROM and subjective PFAQ measures for overall flexibility and flexibility of the hamstrings were significantly different from pre- to post-intervention measurements regardless of the treatment received. A significant difference was found in favor of the MFD group for the GROC values.

**Conclusion:** The findings suggest that both treatments are beneficial in increasing hamstring length. Patients though felt an enhanced treatment effect using MFD over SMR for perceived benefits to hamstring flexibility.

**Levels of Evidence:** Level 2

**Keywords:** myofascial decompression, cupping, self-myofascial release, foam roller, hamstring