

# THE EFFECTS OF AN AQUATIC MANUAL THERAPY TECHNIQUE, AQUASTRETCH™ ON RECREATIONAL ATHLETES WITH LOWER EXTREMITY INJURIES

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## ABSTRACT

**Background:** When paired together, manual therapy and exercise have been effective for regaining range of motion (ROM) in multiple conditions across varied populations. Although exercise in an aquatic environment is common, research investigating manual therapy in this environment is limited. There is little evidence on AquaStretch™ an aquatic manual therapy technique, but anecdotal clinical evidence suggests its effectiveness.

**Purpose:** To investigate the effects of AquaStretch™ on ROM and function in recreational athletes with self-reported lower extremity injury and pain.

**Study Design:** Quasi-experimental design.

**Methods:** Injured recreational athletes participated in a 30-minute intervention session of AquaStretch™. Injuries ranged from ankle (sprains and overuse), knee (contusions, sprains, and overuse), and hip conditions (contusions, overuse, and pain). Before a single intervention (preintervention) and within 24 hours after the intervention (postintervention), participants completed the following patient-reported outcome instruments: the Lower Extremity Functional Scale (LEFS) and the Foot and Ankle Ability Measure (FAAM) Sports subscale. AROM measurements of the ankle, knee, and hip and the following muscle length tests were measured: Ober's test, measurement of the popliteal angle, and the modified Thomas test. Finally, the overhead deep squat test was performed as a test of function.

**Results:** Twenty-six recreational athletes with lower extremity injuries of the ankle, knee, and hip, aged 18-60 years (18 males, 8 females, mean age 27.4 years) completed the study. The overall group by time interaction for the mixed-model Generalized Estimating Equations analysis was statistically significant for the LEFS (all  $p < .002$ ) and for the FAAM Sports subscale ( $p < .01$ ). There were no statistically significant time (pre vs post) by group interactions for range of motion and other measures, including the Ober's test, the overhead deep squat test, popliteal angle, and the modified Thomas test for injured athletes.

**Conclusion:** One session of AquaStretch™ in recreational athletes improved the patient-rated outcome measures of function specifically the LEFS and FAAM Sports subscale. These results suggest that AquaStretch™ may be an effective form of manual therapy to improve lower extremity function in injured athletes.

**Levels of Evidence:** 2b, Individual Cohort Study

**Key words:** AquaStretch™, lower extremity, movement system

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