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1629 Board #282 June 2, 8:00 AM - 9:30 AM

**Longitudinal Outcomes of Dynasplint Stretching for Carpal Tunnel Syndrome Following a Randomized Controlled Trial**

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(No relationships reported)

Carpal Tunnels Syndrome (CTS) has affected 48 million patients in the USA, and CTS is a significant challenge on the workforce because it is the most common peripheral compressive neuropathy in the United States.

**PURPOSE:** to determine if Dynasplint stretching (immediately after diagnosis) had effects on patients' choices for surgical treatment of CTS.

**METHODS:** We recruited fifty patients (10 Men, 40 Women, Mean Age  $51.2 \pm 12$  years) from a single hand center in Maryland and this is a randomized, controlled trial's longitudinal follow up. The intervention used was Dynasplint stretching which delivered a prolonged duration of low load stretching. Patients were randomly applied to experimental subjects who wore the device for two 30-minute sessions each day with sequential, bimonthly increases in splint tension for 60 days. Control patients only received standard of care plus instructions on daily home stretching. The dependent variable was choice of surgery over 12 months following conclusion of the randomized, controlled trial.

**RESULTS:** The final, longitudinal outcome showed a 72% reduction in surgery chosen by the experimental patients (N=25), compared to 38% reduction for control patients (N=25).

**CONCLUSION:** Immediate treatment with Dynasplint stretching showed a 2 to 1 reduction in patients' choice for surgery, with abundant financial savings.

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1630 Board #283 June 2, 8:00 AM - 9:30 AM

**High Intensity Laser Therapy vs Kinesio Taping in Patients with Subacromial Impingement Syndrome**

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Subacromial Impingement Syndrome (SAIS) is a major factor for shoulder pain and many treatment approaches (Kinesio®Taping [KT], Manual Therapy [MT] and High intensity laser therapy [HILT]) are used for pain reduction. It is important to determine which technique to use for a more efficient treatment.

**PURPOSE:** To compare the effects of KT, MT and HILT on pain, range of motion (ROM) and function in patients with SAIS.

**METHODS:** Fifty-five patients with SAIS were randomly divided into 3 groups [KT (n=20), MT+KT (n=16) & MT+KT+HILT (n=19)]. Patients were assessed before and at the end of the treatment (15th day). Assessments included the severity of pain evaluated by Visual Analog Scale (VAS) and shoulder flexion, abduction and external rotation ROM measurements by a universal goniometry. Shoulder Pain and Disability Index (SPADI) was used to measure pain and disability associated with shoulder pathology. Shoulder exercise program was given to all groups.

**RESULTS:** Statistically significant differences were found between before and after treatment results of all parameters in MT+KT and HILT+MT+KT Groups ( $p < 0.05$ ). When comparing three groups in means of ROM and SPADI results, statistically significant differences were found between all groups ( $p < 0.05$ ). These differences were significant especially between MT+KT and KT groups (all  $p < 0.05$ ) and HILT+MT+KT and KT groups (all  $p < 0.05$ ).

**CONCLUSION:** HILT and MT are found more effective in decreasing pain and disability and increasing ROM in patients with SAIS. Further studies with follow up periods are needed for determining the advantages of these treatments and would provide better information for rehabilitation programs.

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1631 Board #284 June 2, 8:00 AM - 9:30 AM

**Comparison Of High And Low Volume Eccentric Resistance Training In Patients With Jumper'S Knee**

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**PURPOSE:** Eccentric strength training has shown to reduce pain and improve functionality in patients with patellar tendinopathy (PT) known as "jumper's knee. The purpose of this study was to compare the effects of a high and a low volume bodyweight strength training on a decline board on pain and functionality.

**METHODS:** A total of thirteen physical active male patients with chronic PT (age  $23.6 \pm 3.80$  years) participated in this study. Subjects were randomly assigned to two groups. Group 1 (low volume; n=7) trained three times per week for eight weeks on a decline board (25°) with one set of 15 repetition and at least 48 h rest between sessions. Group 2 (high volume, n=6) followed the same regime but with three sets of 15 repetitions. No other physical activities were allowed during the first 6 weeks. During the last two weeks of the study the participants returned to their individual sport in addition to the intervention. The Victorian Institute of Sport assessment questionnaire for functionality (VISA) and a numerical rating scale for pain (NRS) was observed at baseline, after week 4 and at the end of the intervention.

**RESULTS:** Both groups showed similar improvements (time effect) during the 8 week intervention for the VISA and the NRS with no significant group effects. VISA: group one (low volume): 30.86 points and group two (high volume): 33 points. NRS: group one and group two: four points each.

**CONCLUSIONS:** The results of this study showed that higher volume of eccentric training on a decline board had no significant advantage compared to lower volume in athletes with PT. However, more studies with a higher number of participants are needed to confirm our findings.

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1632 Board #285 June 2, 8:00 AM - 9:30 AM

**Effects of "Throwers Ten" Exercise Program for Injury Prevention in Adolescent Overhead Athletes: A Randomized Controlled Trial**

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Throwers Ten (T10) exercise program was designed for overhead athletes and commonly used in clinic or field settings. However, it is unknown whether T10 exercise program can also be suggested as an effective injury prevention program.

**PURPOSE:** To investigate the effects of T10 exercise program on injury occurrence in adolescent overhead athletes. The authors hypothesized that T10 exercise program is effective in reducing the rates of injury in adolescent overhead athletes.

**METHODS:** The authors randomized 8 teams of the same club. Four teams were allocated to the intervention group (49 athletes), and 4 teams were allocated to the control group (31 athletes). T10 exercise program was performed two sets in a week additional to the routine training program during the season in the intervention group. Athletes performed their routine training program during the season in the control group. The authors conducted an injury surveillance program during a 9-months season. The primary