Musculoskeletal diseases

Oral communications

CO12-001-e
Adhesive capsulitis of the shoulder: Diagnostic value of active and passive range of motion with volume of the gleno-humeral capsule as reference
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Aim. – The aim was the study of the value of active global (AG) and passive gleno-humeral (PGH) range of motion (ROM) for diagnosing adhesive capsulitis of the shoulder.

Patients and methods. – Candidates to arthrodistension for adhesive capsulitis of the shoulder were included. Inclusion criteria were: limitation of AG (abduction or flexion < 180°) and PGH (abduction or flexion < 90°, or 25% reduction at less of lateral rotation as compared with the opposite shoulder) ROM, and normal articular space on X-ray. Reference criterion for adhesive capsulitis was a gleno-humeral capsule volume < 12 mL as assessed during the procedure of arthrodistension.

Results. – Thirty-one of the 38 included patients satisfied to the reference criterion of adhesive capsulitis. Positive predictive value (PPV) of AG and PGH ROM was therefore 78%. PGH abduction only, was correlated with the volume of the gleno-humeral capsule: \( r = 0.33, P = 0.043 \). Using a threshold of 80° for PGH abduction the PPV was 84%; for a threshold of 60°, 89%, and for a threshold of 40, 100%.

Discussion. – Limitation of AG and PGH ROM has a high PPV (78–100%) for the diagnosis of adhesive capsulitis of the shoulder.

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CO12-002-e
Comparison between supervised structured exercise program and home based exercise program in idiopathic adhesive capsulitis
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Keywords: Idiopathic adhesive capsulitis; Supervised structured exercise program; Home-based exercise program

Introduction. – Exercises are important for management of Adhesive capsulitis. Attending daily exercises in rehabilitation setup results in days lost at work and expenses on travelling. Alternate is a home-based Exercise plan. In this study, we compared effectiveness of supervised structure exercise program (SSEP) with home based exercise program (HBEP) in treatment of idiopathic adhesive capsulitis (IAC).

Material and methods. – It was a randomized control trial conducted at Armed Forces Institute of Rehabilitation Medicine Rawalpindi. Patients in phase-2 of IAC were randomly distributed in two groups “A” undergoing SSEP and “B” undergoing HBEP by simple lottery method. Patients with arrhythmias, cardiovascular diseases and uncontrolled diabetes mellitus were excluded from study. Shoulder pain and disability index (SPADI) and range of motion (ROM) was recorded at presentation and after 3 weeks of exercises. SPSS 17 was used for analysing data.

Results. – In each group 42 patients were enrolled. Females were affected more than males in both groups. There was significant improvement in SPADI and ROM at shoulder joint in both groups \((P<0.05)\) after 3 weeks.

Discussion. – Both SSEP and HBEP can significantly reduce disability with idiopathic adhesive capsulitis. Patient of IAC with no contraindications can adopt HBEP with equal efficacy.

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CO12-003-e
Closed-chain exercise effectiveness for preventing shoulder disorders in industrial workers
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Keywords: Shoulder; Musculoskeletal disorders; Subacromial impingement; Closed-chain exercise

Introduction. – Shoulder work-related musculoskeletal disorders represent a major occupational health problem. The most common shoulder disorder described in the literature is the subacromial impingement syndrome. This pathomechanism is generally associated with an abnormal superior humeral head migration during arm elevation. The aim of this study is to investigate the effect of a specific closed-chain humeral head centering exercise on shoulder pain and function at workplace.

Methods. – Eleven subjects with impingement symptoms have performed 5 humeral head centering sessions with the help of a specific device (Scapulotm, Europhyseo). Two parameters were controlled before and after the training program: – Shoulder Pain And Disability Index (SPADI);

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Results.— Results showed a significant reduction of the SPADI (P < .01): pre-intervention (mean = 31.1, SD = 24.3) vs. post-intervention (mean = 15.1, SD = 17.2) as well as an increased of Yocum test range of motion (P < .001).

Discussion.— The results of this study could be explained by humeral head centering improvement and rotator cuff muscle strengthening. The specific closed-chain centering exercise involved in this study appears as an effective management way for shoulder disorders at workplace.

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CO12-004-e
The multi-joint system in complex rehabilitation of impingement syndrome of the shoulder
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Keyword: Impingement syndrome

Introduction.— Study was aimed to assess the efficacy of complex shoulder impingement syndrome rehabilitation with multi-joint system and dedicated rehabilitation software.

Methods.— Multi-joint system is a rehabilitation device for neurorehabilitation and trauma rehabilitation. It is used for patients exhibiting motor dysfunction of the upper extremity.

Subjects (n = 53); ROM: abduction – 30 degree, flexion – 40 degree, extension – 10 degree, external rotation – 5 degree, internal rotation – 5 degree; age 48 ± 7, divided into 2 groups: Experimental group (n = 26), age-matched control group (n = 27). All subjects received 15 sessions, each approximately 45 min; 5/wk.

Experimental group received MJS combined with ESWT (3/wk) and massage (5/wk). Control group received traditional treatment (exercises, PT, massage) of a similar duration and frequency.

Results.— After 15 consecutive sessions, all patients were reevaluated by American Shoulder and Elbow Surgeons Assessment (ASES), Shoulder Score Index (SSI) and ROM measurements recorded using MJS. Statistical analysis indicated significant improvement within the experimental group when compared to the control group:

– (ASES): P = 0.016;
– (SSI): P = 0.042;
– performance accuracy on x axis: P < 0.001;
– performance accuracy on y axis: P < 0.001.

Discussion.— Combination of multi-joint system with ESWT and massage proved to be significantly more effective than traditional therapy.

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CO12-005-e
Shoulder arthroscopy. Capsuloplasty for anterior instability follow-up of 7 years:
Value of the Isis’s score
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Keywords: Shoulder capsuloplasty; Isis score

The purpose of this work is to report the follow-up of 7 years from 46 patients operated for anterior instability of the shoulder by capsuloplasty under endoscopy.

Material and method.— Forty-six subjects (17 women, 29 men) the average age at the time of the intervention was 24.6 years. We noted the various items of the preoperative Isis’s score.

Results.— We were able to contact 45 patients on 46 operated, among these subjects, 8 (17%) presented a second recurrence requiring a surgical management. The surgical management arose on average 32 months after the capsuloplasty. The recidivist group is younger (20.2 years). Among the 37 subjects with no recidivism, 30 were able to return sport with the same level; 7 changed the sport. The Wosii’s score was 84%.

Conclusion.— Among the various factors occurring in the Isis’s score, only the age was determinant.

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CO18-001-e
Kinesophobia among Jordanian low back pain patients
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Keywords: Kinesophobia; Tampa scale; Arabic version

Introduction.— Kinesophobia, or fear of movement. TSK was originally developed in English and translated into several languages but there is currently no validated version of the TSK for Arabic-speaking populations.

Methods.— Participants were provided with a set of questionnaires to complete, including demographic data, the Visual Analogue Scale (VAS), the Arabic version of the TSK (TSK-AV) and the Roland Morris Disability Questionnaire (RDQ) Arabic Version. The collected data were used for further psychometric analysis.

Results.— Sh How > 2-factor model provides an adequate to good fit to our data, explaining about 46.64% of the variance. Factor 1 labelled as “activity avoidance” (AA) in our study comprised the items 1, 2, 7, 9, 14, 15 and 17 while factor 2 labelled as “harm” (H) comprised the items 3, 6, 11 and 13. The TSK-AV, TSK-AV-AA and TSK-AV-H all proved to be independent significant predictors of pain disability in Jordanian patients with chronic low back pain even after accounting for factors such as age, gender, pain duration and pain severity (VAS).

Conclusion.— Our study provided the first translation of the TSK into Arabic. Testing in Jordanian patients demonstrated that TSK-AV, TSK-AV-AA and TSK-AV-H are significant independent predictors of pain disability along with age and pain intensity.

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CO18-002-e
Quantitative muscle ultrasound and muscle strength in patients with post-polio syndrome
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Keywords: Post-polymyelitis syndrome; Skeletal/ultrasonography; Motor neuron disease/ultrasonography; Muscle strength

Introduction.— In post-polio syndrome (PPS), clinical disease severity is usually assessed with manual muscle strength measurements. These cannot detect weakness in relatively strong muscles and can be impeded by the variable symptoms that are part of the disease. We investigated muscle ultrasound as a potential alternative, by determining whether it can distinguish muscles of patients with PPS from those of healthy controls; and whether the severity of ultrasound abnormalities is associated with muscle strength.

Methods.— Echo intensity, muscle thickness, and isometric strength of the quadriceps muscles were measured in 48 patients with PPS and 12 healthy controls.

Results.— Patients with PPS had significantly higher echo intensity, lower muscle thickness and lower strength than healthy controls. In patients, both echo intensity and muscle thickness were independently associated with muscle strength. A combined measure of echo intensity and muscle thickness was more strongly related to muscle strength (r = 0.607, P ≤ 0.001) than either echo intensity (r = −0.463, P = 0.001) or muscle thickness (r = 0.480, P = 0.001) alone.

Discussion.— Quantitative ultrasound distinguishes healthy muscles from those affected by PPS. Since measures of muscle thickness and echo intensity relate to...