

**Conclusion:** The 6MST is a valid test to evaluate exercise capacity in patients with AS. It is also an appropriate alternative to the 6MWT for determining exercise capacity when the 6MWT is not feasible due to technical restrictions. The 6MST can be proposed as a new exercise capacity evaluation tool in AS, as it is valid, reliable, portable and inexpensive.

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### THU0609-HPR RESPONSIVENESS OF THE DISABILITIES OF THE ARM, SHOULDER AND HAND (DASH) AND THE UPPER EXTREMITY FUNCTIONAL INDEX (UEFI) IN PATIENTS WITH POSTTRAUMATIC ELBOW STIFFNESS

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**Background:** There are many patient-rated outcome measures to assess the subjective component of function in musculoskeletal disorders of elbow. The first step of functional assessment is to select the instrument, which is sufficiently responsive. Although the disabilities of the arm, shoulder and hand (DASH) and the upper extremity functional index (UEFI) are widely used in reporting outcomes in upper extremity function, the responsiveness of these two scales has not been investigated in elbow disorders.

**Objectives:** This study aimed to compare and report the responsiveness of the DASH and the UEFI in patients with posttraumatic elbow stiffness.

**Methods:** Fifty-seven patients with posttraumatic elbow stiffness (32 women; mean age, 44.54±6.51 years) were included. All patients completed the DASH and UEFI at baseline and after a six-week intervention, which was a structured exercise program. Patients who improved (much improved and slightly improved) and those who unimproved were defined using a 5-point global rating chance scale (GROC). Responsiveness was assessed using effect size and standardized response mean (SRM). ES has observed the mean change scores divided by the standard deviation of the initial score. SRM was calculated for the improved group and the unimproved group, dividing the mean change scores by the standard deviation of mean change scores. Similar to effect size, SRM values and ES values of 0.20, 0.50 and 0.80 were considered small, moderate or large, respectively.

**Results:** Forty-eight patients (84.21%) were classified improved and 9 patients (15.79%) were classified unimproved according to the GROC. Effect sizes and SRMs were large (greater than 1.00) for participants who were "much improved" or "slightly improved" on the GROC for both the DASH and UEFI. For groups of participants who improved on the GROC, effect sizes and SRMs were ranged from 1.87 to 2.09 and 2.13 to 2.56 for the DASH, and 1.59 to 2.16 and 1.65 to 2.29 for the UEFI, respectively (Table 1).

**Table 1. Mean baseline scores, change scores, effect size and standardized response mean for improved and unimproved patients**

| Global Rating of Change                               | Improved (n=48)      |                          | Unimproved (n=9) |
|-------------------------------------------------------|----------------------|--------------------------|------------------|
|                                                       | Much Improved (n=27) | Slightly Improved (n=21) | No Change (n=9)  |
|                                                       | Mean (SD)            | Mean (SD)                | Mean (SD)        |
| <b>The disabilities of the arm, shoulder and hand</b> |                      |                          |                  |
| Baseline                                              | 43.41 (14.22)        | 42.66 (13.41)            | 44.21 (7.24)     |
| After 6-week                                          | 13.65 (11.60)        | 17.51 (8.91)             | 39.72 (6.81)     |
| Change                                                | -29.75 (11.61)       | -25.14 (11.77)           | -4.48 (3.26)     |
| ES                                                    | 2.09                 | 1.87                     | 0.61             |
| SRM                                                   | 2.56                 | 2.13                     | 1.37             |
| <b>The upper extremity functional index</b>           |                      |                          |                  |
| Baseline                                              | 42.00 (10.15)        | 42.76 (15.75)            | 39.75 (9.85)     |
| After 6-week                                          | 64.00 (10.53)        | 67.47 (11.47)            | 47.00 (5.39)     |
| Change                                                | 22.00 (9.60)         | 24.71 (14.96)            | 7.25 (6.47)      |
| ES                                                    | 2.16                 | 1.56                     | 0.73             |
| SRM                                                   | 2.29                 | 1.65                     | 1.12             |

Abbreviations: ES, Effect Size; SD, Standard Deviation; SRM, Standardised Response Mean.

**Conclusion:** These findings showed that for patients receiving physiotherapy for the management of elbow stiffness, both the DASH and the UEFI are similarly responsive to change in symptoms and disability and similarly able to discriminate between patients who improved or unimproved.

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### THU0610-HPR PREDICTION EQUATION FOR MUSCLE MASS OVERESTIMATES MUSCLE MASS IN PATIENTS WITH RHEUMATOID ARTHRITIS

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**Background:** Rheumatoid Arthritis (RA) is a chronic, progressive, inflammatory autoimmune disease characterized by systemic manifestations. Often is observed in RA patients changes in body composition, such as reduced muscle mass (sarcopenia) with stable or increased fat mass (FM) [1]. Total-body skeletal muscle mass (SMM), specifically appendicular skeletal muscle, is a key diagnostic feature for the assessment of geriatric syndromes associated with skeletal muscle wasting, such as sarcopenia [2]. Estimation of SMM can be accomplished by a variety of methods, but the majority that considered the gold standard for this purpose are high cost. Due high cost, this methods are unfeasible in population studies and increases the difficulty of use in different clinical contexts. Predictive equations have been developed for estimation of whole-body skeletal muscle mass on the basis of anthropometric data, which can be collected in a more affordable manner, in an attempt to make SMM calculation easier and enable its use in epidemiological research and in clinical settings [3]. However, these equations were not developed for RA populations.

**Objectives:** To compare the anthropometric equation that estimate SMM with body composition measurements derived from DXA in RA patients.

**Methods:** Ninety patients diagnosed with RA according to ACR/EULAR criteria were recruited. Body composition was assessed by total body dual-energy x-ray absorptiometry (DXA) for measurement of appendicular lean mass index (ALMI, kg/m<sup>2</sup>). The prediction equation for muscle mass proposed by Lee et al (variables included: body weight, height, age, sex and race) was used to generate estimates of SMM, stratified by BMI. Frequency analysis, independent student's t test and intraclass correlation coefficients (ICC) were performed. Statistical significance was considered as p<0.05

**Results:** Of the 90 patients analyzed, most were women (86.7%; 78/91), with mean age of 56.5±7.3 and median disease duration time of 8.5 (3-18) years. The mean of BMI was 27.39±5.14. Thirty (33.3%) RA patients had normal weight, forty patients (44.4%) were overweight and twenty patients (22.2%) were obese. In normal weight patients, just like overweight and obese patients, the estimates of SMM obtained by Lee equation were higher than those obtained by DXA measurements (Obese: Lee 10.66±1.19 vs DXA 7.10±0.73; Overweight: Lee 8.63±0.99 vs DXA 6.57±0.82; Normal weight: Lee 7.14±0.85 vs DXA 6.03±0.71; p<0.05). The Lee equation estimates showed ICC of 0.78 (0.66 - 0.85) with DXA measurements. When stratified by BMI, Lee equation showed ICC of 0.87 (0.72 - 0.94) for normal weight, 0.83 (0.68 - 0.91) for overweight and 0.77 (0.42 - 0.90) for obese with DXA.

**Conclusion:** The muscle mass index by Lee equation overestimates the muscle mass in overweight or obese RA patients compared to DXA. Thus, sarcopenic RA patients may be wrongly classified as normal by the equation. This is probably related to the obese cachexia that these patients often present. More studies are necessary to analysis to better prediction equations for muscle mass in RA patients.

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