

16th EFORT Congress 2015 Prague, CZ | 27-29 May

“Ergonomics And Work Related Disability Amongst Orthopaedic Surgeons”

Dimitra Nella¹, P Tsaklis², A. Benos³, Eustathios Kenanidis⁴, Michael Potoupnis⁴, Fares Sayegh⁴, Eleftherios Tsiridis⁴, John Kirkos⁴

1.3rd Orthopaedic Department AUTH, Thessaloniki, Greece

2.Biomechanics and Ergonomics Laboratory, Dept of Physiotherapy, ATEI- Thessaloniki, Greece

3.Laboratory of Hygiene, Medical School, Aristotle University of Thessaloniki, Thessaloniki, Greece

4.3rd Orthopaedic Department, Aristotle University of Thessaloniki, Thessaloniki, Greece

Keywords: Ergonomics, Orthopaedic Surgeons, Disability

Introduction: Work related disability is ill recorded between orthopaedic surgeons.

Objectives: The aim of this study was to determine the prevalence of arm and low back musculoskeletal disorders and ergonomic hazards and their relationship among Greek Orthopaedic Surgeons. We also estimated the self-reported training on ergonomics for the benefit of surgeons' health protection.

Methods: A self-administered questionnaire was provided to 100 residents and specialists Greek orthopaedic surgeons. The questionnaire had three major parts: the first was the Quick DASH and its optional work module for the assessment of functional disability of the upper limbs, the second was the Oswestry Disability Index for the assessment of disability due to low back pain and the last part gathered individual and work-related data as the duration of exposure to ergonomic hazards at work. In addition hand size, dominant limb, smoking and exercise were all recorded and analyzed. All values are given by means of median (iqr) (non-parametric tests)

Results: 59 specialists and 41 residents Greek Orthopaedic Surgeons completed the questionnaires. Their age was 47(11) and 30(6) years respectively. The working experience of specialists was 17(11.8) years and 3(2.8) years for residents. Specialists spent fewer hours in operating theatre 6(6) per week in comparison to residents who spend on average 10(7) hours per week. 72% of the responders demonstrated some degree of upper limb injury and 60% reported occasional low back pain. 2% reported major disability, not being able to continue orthopaedic practice. Upper limb scores were 4.5 (15.3) and 0 (10.9) (Quick DASH and work module respectively) and for low back pain 4 (10) (Oswestry index). Specialists demonstrated higher scores of disability [6.8 (15.9) and 4 (10) in Quick DASH and Oswestry index respectively] in comparison to residents [4.5 (11.4) and 2 (10) respectively]. However these differences were not statistically significant. There was no significant difference when individuals with smaller [20,5 (0) and 14 (0) respectively], medium [4.5 (11.4) and 4 (10) respectively] and large sized hands [4.5 (13.6) and 2 (10) respectively] were compared as well as left handedness [10.2 (14.2) and 5 (11.5) respectively] versus right handedness [4.5 (13.6) and 2 (10) respectively] and ambidexterity [6.8 (21.6) and 6 (14) respectively]. Smokers [2.3 (17) and 4 (10) respectively] demonstrated more functional disability than non-smokers [4.5 (13.6) and 4 (12) respectively] and those who don't work out [4.5 (10.8) and 3 (10) respectively] compared to those who work out on regular basis [4.5 (15.3) and 4 (10) respectively]. Age was the only significant factor affecting upper limb (Exp(B)=1.059, 95%CI 1.006-1.114 p=0.028) and low back pain disability (Exp(B)=1.051, 95%CI 1.006-1.098 p=0.026). 55% of responders reported lack of ergonomic training for surgeons in their institutions.

Conclusions: Musculoskeletal disorders are ill recorded between orthopaedic surgeons in the literature. Age, smoking, lack of exercise and ergonomic training are major risk factors in developing upper limb and back disability