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Heart rate response during FCE testing: A comparison of injured individuals who provided safe maximum vs. sub maximum performance during carry and push/pull

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Abstract

Introduction: Functional capacity evaluations (FCEs) are a comprehensive set of performance based tests, commonly used to evaluate and determine a worker's capacity to perform the physical demands that may be required in his or her job. The purpose of this study is to assess if physiological response differences are found in workers' compensation individuals whom performed either safe-maximally or sub-maximally during FCE testing in order to establish guidelines for this population in reference to carry and push pull.

Methods: Participants consisted of 204 male and female individuals between the ages of 19-80 receiving workers' compensation benefits following a work-related injury or illness. This study was retrospective in design. The following variables, based on the existing data, were evaluated: baseline pain level, gender, age, resting heart rate (RHR), body mass index, and percent heart rate increase for each functional test.

Results: Averages among variables such as % HR increase for the Carry and Push Pull components, age, baseline pain, BMI, and RHR were compared between the safe maximal and sub maximal groups. 132 males and 64 females were used in the safe maximal group, with an average age of 46.7. Other average values were as follows: % HR increase Carry - 42.5%; % HR increase Push Pull - 40.3%; Baseline Pain - 4.3/10; BMI - 31.4; Resting HR - 75.8 bpm. 7 females and 3 males were used in the sub maximal group, with an average age of 46. Other average values were as follows: % HR increase Carry - 40.1%; % HR increase Push Pull - 37.8%; Baseline Pain - 5.5/10; Resting HR - 80.8 bpm.

Conclusion: Differences in HR increase between the two groups were shown; however, these could not be determined statistically significant due to the group sample sizes.

Biography

Dr. Vazquez Morgan earned a Bachelors of Science in Physical Therapy in 1993, a Masters in Health Sciences in 1997 from Louisiana State University Health Sciences Center in Shreveport, and her doctorate in Health Studies from Texas Woman's University in Denton, Texas in 2006. She has 19 years of clinical rehabilitation experience and has been a faculty member and assistant professor at Louisiana State University Health in Shreveport, School of Allied Health Professions since 1997.

She has presented research both nationally, internationally, and regionally at continuing educations seminars. Her expertise is in neurological interventions as well as nutrition, wellness, lifestyle modification, and community rehabilitation and occupational health. She was recently featured in National Newsline Magazine for PT speaking on the role of cultural diversity in the physical therapy profession, and was honored in November 2006 by Maybelline NY as outstanding female educator of the year, and featured in People en Espanol December 2006 issue. Dr. Morgan was also a recipient of the American Physical Therapy Association Minority Faculty Development National Scholarship in 2003.