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## Psychophysical and physiologic variables during dynamic lift testing in functional capacity evaluations

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**Purpose:** Patients who suffer on the job injuries rely on State administered workers' compensation systems for appropriate medical treatment and rehabilitation. Functional Capacity Evaluations (FCEs) have been readily utilized by physical therapists and other health care providers to evaluate a patient's capacity to return to work along with establishing specific limitations with common functional tasks required in the workplace. The purpose of this study was to evaluate heart rate (HR) responses between patients in two performance level classifications (safe-maximal and sub-maximal) and to attempt to establish a minimum threshold for HR changes that should be expected during specific functional testing protocols within FCEs.

**Materials and Methods:** Participants included 500 males and females ranging in age from 28 to 85 whom were injured on the job. Variables measured included resting HR, pre-HR and peak-HR during dynamic lift testing, percent of HR change, resting blood pressure. Participants were classified as providing either safe-maximal or sub-maximal performance during the functional testing based on established objective criteria. All 500 individuals participated in three dynamic lift tests, floor to knuckle, knuckle to shoulder, and shoulder to overhead. Analyses: A one tailed t-test was used to assess HR change between groups.

**Results:** Statistically significant differences ( $p=0.000000306$ ) were found in percent change in HR between the safe-maximal and sub-maximal performance groups for all three dynamic lift tests.

**Conclusion:** Statistically significant differences were found in percent change in HR, between the safe-maximal and sub-maximal performance groups. This study may provide an objective physiological guideline for healthcare professionals to use during sub-maximal performance groups. This study may provide an objective physiological guideline for healthcare professionals to use during FCE assessments.

### Biography

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 education 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. She was also a recipient of the American Physical Therapy Association Minority Faculty Development National Scholarship in 2003.

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