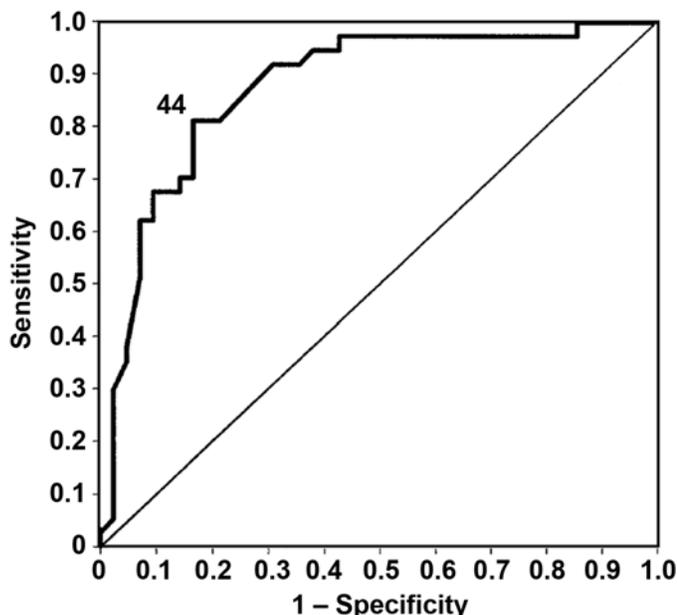


Preliminary analysis of posttraumatic stress disorder screening within specialty clinic setting for OIF/OEF veterans seeking care for neck or back pain

Andrew S. Dunn, DC, MEd, MS, et al.



Rates of posttraumatic stress disorder (PTSD) have been increasing among recently returning Operations Iraqi Freedom and Enduring Freedom (OIF/OEF) veterans. Early detection and management are important for reducing chronic mental illness and disability. Because PTSD is often accompanied by chronic pain, clinic settings addressing pain complaints among veterans may provide opportunities for PTSD screening. This study evaluated the use of the PTSD Checklist to identify an optimal cutoff score for recently returning OIF/OEF veterans seeking care for neck or back pain. This study's findings show that future research and clinical practice are needed regarding PTSD screening among veterans.

Audiometric thresholds and prevalence of tinnitus among male veterans in the United States: Data from the National Health and Nutrition Examination Survey, 1999–2006

Robert L. Folmer, PhD, et al.

This study used data from the National Health and Nutrition Examination Survey to estimate hearing thresholds and the prevalence of tinnitus among male veterans in the United States. We compared audiometric data collected from male veterans with data collected from male nonveterans. We used the questionnaire data to calculate and compare the prevalence of tinnitus for veterans and nonveterans. In general, hearing thresholds did not differ significantly between veterans and nonveterans for most frequencies tested. The overall prevalence of tinnitus was greater for veterans compared with nonveterans, with statistically significant differences in the 50 to 59 and 60 to 69 age groups.

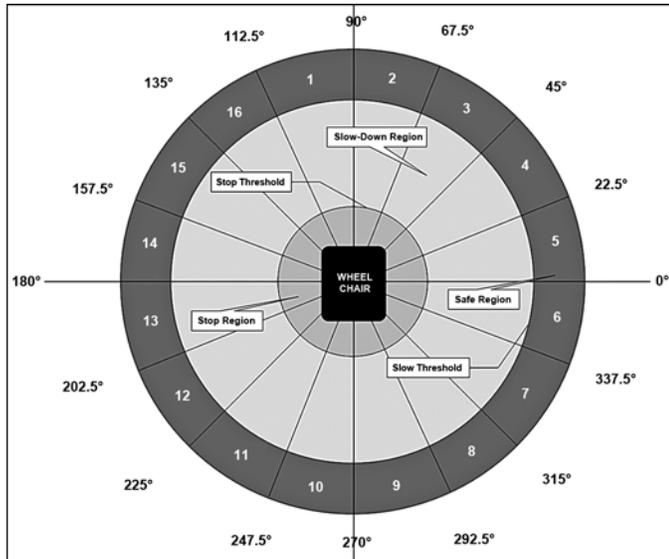
Responsiveness of the Canadian Occupational Performance Measure

Isaline C. J. M. Eysen, MSc, OT, et al.

The Canadian Occupational Performance Measure (COPM) is an individualized, client-centered outcome measure for identifying and evaluating self-perceived occupational performance issues. We evaluated the COPM's ability to detect improvement and found that the COPM is indeed able to detect improvement in the client's occupational performance. The COPM allows assessors to evaluate changes in those aspects of performance and satisfaction that concern the client. For the performance scores, the minimal change scores were 1.37 and 0.90 for blinded and reflective scoring, respectively. For the satisfaction scores, the minimal change scores were 1.90 and 1.45 for blinded and reflective scoring, respectively.

Performance testing of collision-avoidance system for power wheelchairs

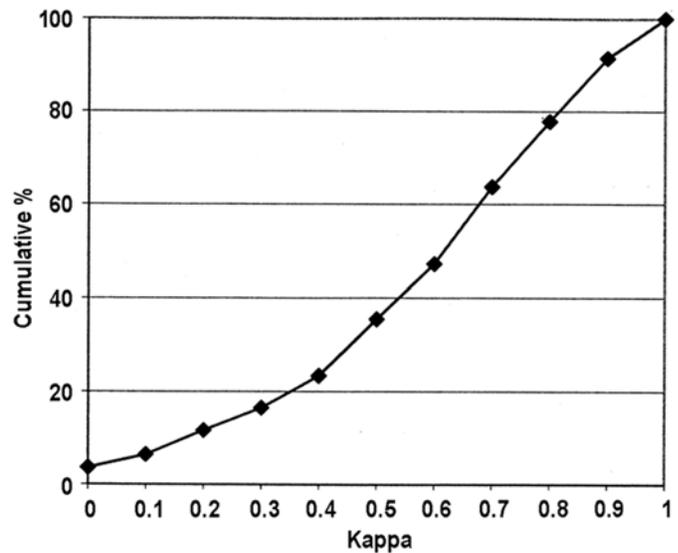
Edmund F. LoPresti, PhD, et al.



The Drive-Safe System (DSS) is designed to help power wheelchair users avoid collisions. Therefore, it could help people with mobility impairments who also have difficulties seeing, using their arms and hands, or learning driving skills, including veterans with multiple injuries. The DSS is designed to be easily added on to an existing wheelchair. In laboratory tests, the DSS provided reliable sensor coverage all around the wheelchair and detected obstacles as small as 3.2 mm at distances of at least 1.6 m. The DSS can drive as close as 15.2 cm from a wall and go through 81.3 cm doorways.

Reliability of standardized assessment for adults who are deafblind

Dawn M. Guthrie, PhD, et al.



We created an assessment tool that has about 300 different items. We tested this tool in people who have some loss of their vision and their hearing. Two different assessors completed the tool with the same person. The assessment seems to work well for most questions. However, for questions about a person's mood, level of pain, and social activities, it did not work as well. This tool is useful in sorting out the needs of people with vision and hearing loss.

Decreased central fatigue in multiple sclerosis patients after 8 weeks of surface functional electrical stimulation

Ya-Ju Chang, PhD, et al.

Fatigue, particularly central fatigue, is one of the most commonly reported symptoms in individuals with multiple sclerosis (MS). However, effective treatments for MS-associated central fatigue have not been established. Surface functional electrical stimulation (FES), which can challenge the peripheral neuromuscular system without overloading the central nervous system, is a relatively safe therapeutic strategy. The current study showed that central fatigue was a primary limitation in MS patients during voluntary exercise, and that 8 weeks of surface FES training led to significantly reduced fatigue, particularly central fatigue, in individuals with MS.

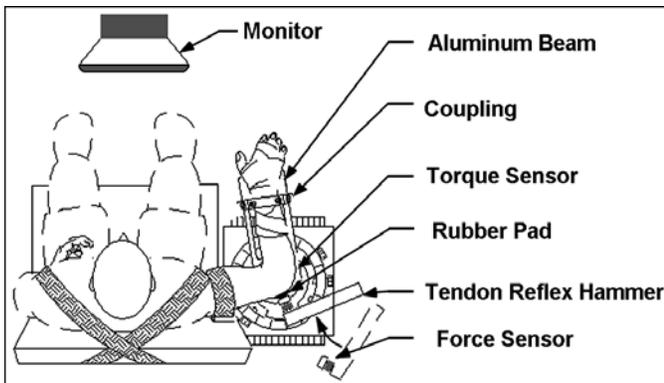
Techniques to measure rigidity of ankle-foot orthosis: A review

Toshiki Kobayashi, PhD, et al.

Ankle-foot orthoses (AFOs) are used to improve gait in people with various diseases. Research studies have shown that the stiffness of AFOs is important and affects gait. Therefore, many techniques have been developed to measure AFO stiffness. We reviewed these techniques to identify their strengths and weaknesses and make recommendations for clinical and industrial use. We found 35 studies and grouped them into 8 techniques based on the methods or sensors used. Knowledge from this study will help clinicians and engineers better understand the different techniques and their practical applications.

Evaluations of neuromuscular dynamics of hyperactive reflexes poststroke

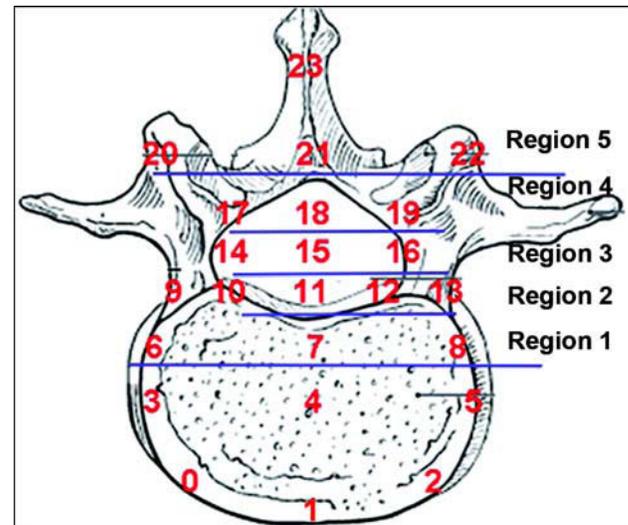
Jie Liu, BS, et al.



We used a handheld instrumented hammer to tap the triceps muscle tendon and measured the tapping force, muscle activation, and joint torque to quantitatively characterize neuromuscular dynamics of tendon reflexes in patients with stroke and in nondisabled controls. Results showed that quantitative tendon reflex evaluations help us measure spasticity, neurological reflex excitability, and muscle contraction dynamics accurately, which can lead to more accurate characterizations of pathological conditions and rehabilitation outcomes, potentially contributing to better healthcare services for patients with neurological disorders such as spinal cord injury, traumatic brain injury, and stroke.

New method for determining apparent axial center of rotation of lumbar and thoracic spine segments

Sanjum P. Samagh, MS, et al.



A main challenge regarding the spine is determining its rotational axis. Previous research on this topic has yielded contradictory results because of the anatomic and functional complexity of the spine. The objective of this study was to determine the apparent axial center of rotation by developing and validating a new method. With a better understanding of spine biomechanics, the future of treatment for back pain and instability, particularly in the lower segments, may need to be re-examined. Medical or surgical interventions for the spine could also potentially be improved through a better understanding of the spinal center of rotation.

Cognitive impairment as barrier to engagement in vocational services among veterans with severe mental illness

Maureen K. O'Connor, PsyD, ABCN, et al.

The Veterans Health Administration is one of the largest providers of vocational services in the country. Veterans with mental illness commonly experience problems with memory and thinking that may slow entry into vocational services. The present study found that veterans with both mental illness and cognitive impairment experience delays in receiving vocational services compared with those with little or no cognitive impairment. These results suggest that clinicians should identify veterans with both mental illness and cognitive impairment early so that integrated and additional services can be provided.

