

**Identification of domains and measures for assessment battery to examine well-being of spouses of OIF/OEF veterans with PTSD**

Jeanne Hayes, PhD, MPA, et al.

Identifying how servicemembers' exposure to trauma affects spouses is a critical gap. We used a combination of expert panel and qualitative methods to develop a battery of instruments to assess marital partners' well-being. We describe our methods and outcomes, including the measurements selected for the assessment battery, findings from interviews with spouses, and plans for administering the battery to identify unmet caregiver needs and, ultimately, to develop targeted interventions for spouses and others assisting with the veterans' care. Marital partners' well-being is a key component of veterans' recovery; veterans' chances of recovering from trauma may be minimized without their partners' support.

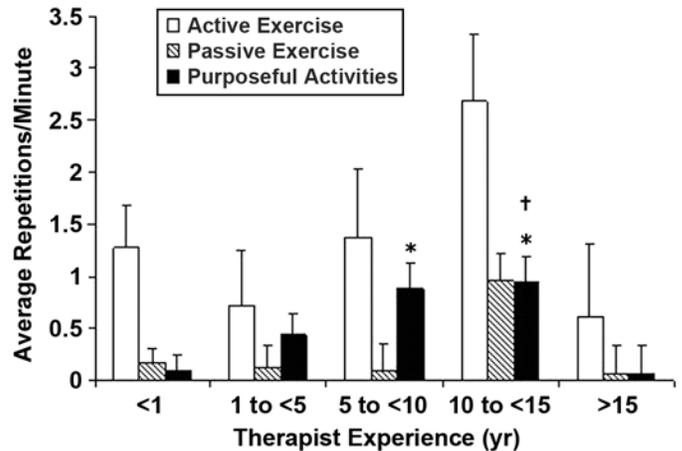
**Executive clock drawing correlates with performance-based functional status in people with combat-related mild traumatic brain injury and comorbid posttraumatic stress disorder**

Brian W. Writer, DO, et al.

Traumatic brain injury (TBI) can result in difficulties with daily functioning, such as managing money or medications, and in problems with thinking, such as planning or organizing one's behavior. This type of thinking is named executive functioning. Its interaction is unknown following combat-related TBI in veterans with posttraumatic stress disorder (PTSD). We studied 15 Operation Iraqi Freedom veterans with combat-related TBI and comorbid PTSD. We found that post-TBI difficulty with executive functioning as measured by a brief clock drawing task was associated with problems with daily functioning regardless of their PTSD. While larger confirmatory studies are needed, this finding could help healthcare providers identify Active Duty servicemembers and veterans in need of more extensive evaluation.

**Comparison of amounts and types of practice during rehabilitation for traumatic brain injury and stroke**

Teresa Jacobson Kimberley, PhD, PT, et al.



Rehabilitation, including repetitions of physical exercise, helps patients regain skills lost because of damage to the brain. Research suggests that hundreds of repetitions are needed for the brain to make new "connections." Our study reported how many repetitions of exercises are being done in rehabilitation sessions with patients who have had a stroke or traumatic brain injury. Results showed that the average number of repetitions being performed is less than what research suggests is needed to reorganize the brain and depends on the patient's diagnosis or the therapist's years of experience. This information invites discussion about how rehabilitation may need to be altered to maximize brain changes.

**Symptom burden in individuals with cerebral palsy**

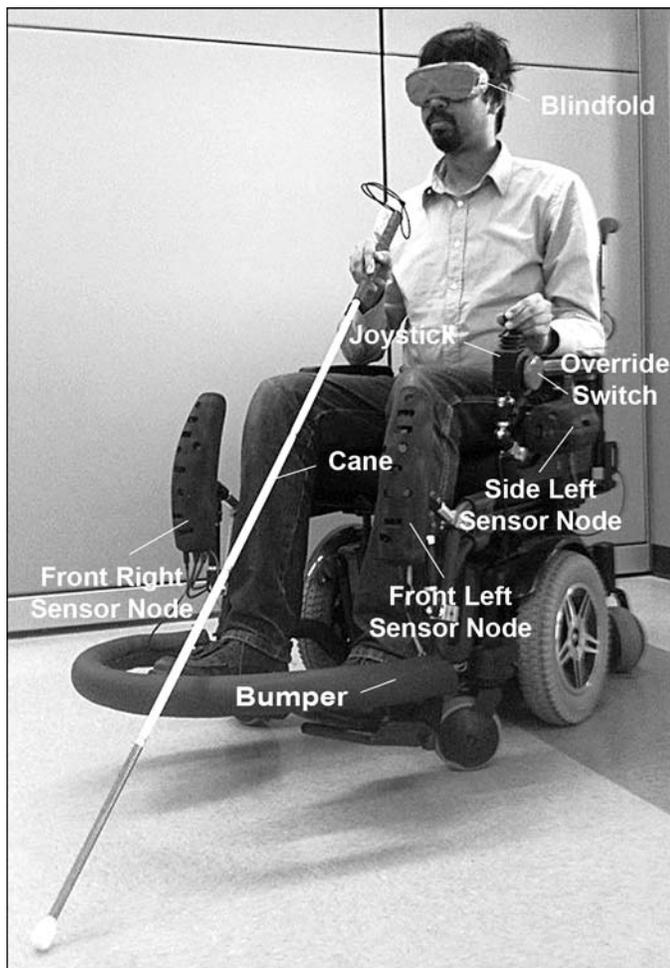
Adam T. Hirsh, PhD, et al.

This study examined the frequency, severity, and course of eight symptoms in adults with cerebral palsy and the associations between these symptoms and psychosocial functioning. The 83 participants indicated that pain, fatigue, imbalance, and weakness were the most common and severe symptoms experienced. All symptoms were reported to have stayed the same or worsened over time. The symptoms were more closely related to social integration than to home competency, productive

activity, or psychological functioning. Memory loss was a particularly important predictor of social integration. Additional research could investigate the best treatments for those symptoms that impact psychosocial functioning.

### Evaluation of semiautonomous navigation assistance system for power wheelchairs with blindfolded nondisabled individuals

Vinod Sharma, PhD, et al.

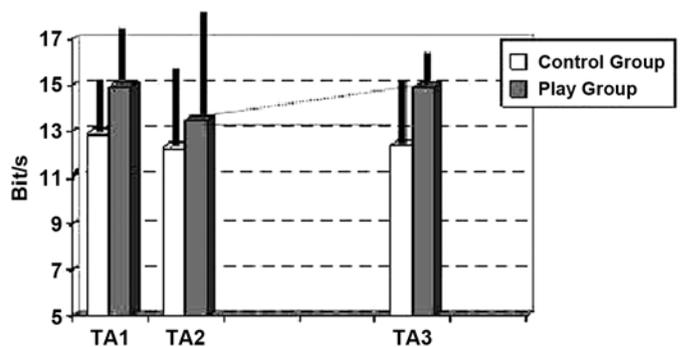


Some veterans with disabilities are denied powered mobility because they lack the visual, motor, and/or cognitive skills required to safely operate a powered wheelchair. The Drive-Safe System (DSS) is designed to help power wheelchair users avoid collisions. Therefore, it could help people with mobility impairments who also have difficulties seeing, using their arms and hands, or learning driving skills, including veterans with multiple injuries. In this project, clinical evaluation of the DSS was

performed in a controlled laboratory setting with blindfolded nondisabled individuals. Results indicate that the participants were able to reach the assigned target without hitting obstacles when using the navigation assistance from the DSS. These findings suggest that the DSS can be a viable powered mobility solution for wheelchair users with visual impairments.

### Stop of loss of cognitive performance during rehabilitation after total hip arthroplasty—Prospective controlled study

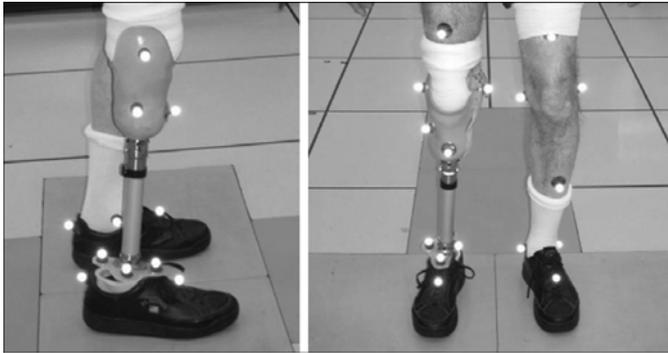
Matthias H. Brem, MD, MHBA, et al.



Recent work in research on cognitive development has shown that patients lose cognitive performance during hospitalization and rehabilitation. We evaluated whether playing electronic games like *Dr. Kawashima's Brain Training: How Old Is Your Brain?* on a Nintendo DS can help prevent this loss of cognitive performance. We enrolled 32 participants (16 played the game and 16 served as a control group) in our study. The play group showed an increase in their cognitive performance and the control group showed a decrease 2 weeks after total hip arthroplasty. This article is of interest to all veterans who need to keep up their cognitive performance during extended time in hospitals and rehabilitation centers. The cognitive stability also helps patients reintegrate into everyday life after surgery.

### Effects of prosthetic foot forefoot flexibility on gait of unilateral transtibial prosthesis users

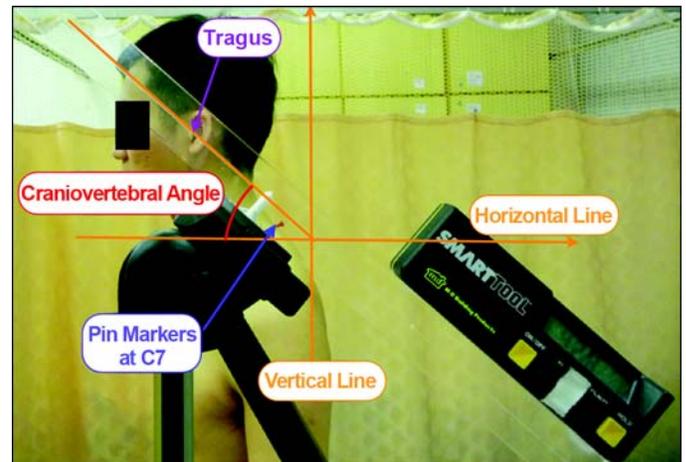
Elizabeth Klodd, MS, et al.



Lower-limb prosthesis users are common among the U.S. veteran population. This study investigates a design factor that may help researchers understand prosthetic foot function. A greater understanding of how prosthetic foot forefoot flexibility affects walking may improve prosthetic foot design and prescription in the future.

### Measurement of craniocervical angle with Electronic Head Posture Instrument: Criterion validity

Herman Mun Cheung Lau, PgD, MPhil, et al.



Traditionally, clinicians assess head-neck posture using radiography and sophisticated equipment. The Electronic Head Posture Instrument (EHPI) is a simple and convenient device developed to help clinicians measure the head-neck posture of patients with long-term mechanical neck pain. In this study, we evaluated the accuracy and usefulness of the EHPI and investigated the relationship between subjective pain intensity, head-neck posture, and disability by means of a questionnaire. The results showed that the instrument is useful for clinicians to assess patients with long-term mechanical neck pain and that poor head-neck posture is positively related to neck disability and pain intensity.