

## Using military friendships to optimize postdeployment reintegration for male Operation Iraqi Freedom/Operation Enduring Freedom veterans

Ramon Hinojosa, PhD; Melanie Sberna Hinojosa, PhD

Servicemembers face a tough situation being separated from family and friends during deployment and trying to reintegrate with civilian society postdeployment. While postdeployment studies often focus on the role of the veteran's family in reintegration, former military unit members may be a key resource to help veterans reintegrate. Servicemembers often form a strong bond with members who served with them when deployed, and this strong connection often carries over into postdeployment. Taking advantage of military friendships could help veterans transition back into civilian society.

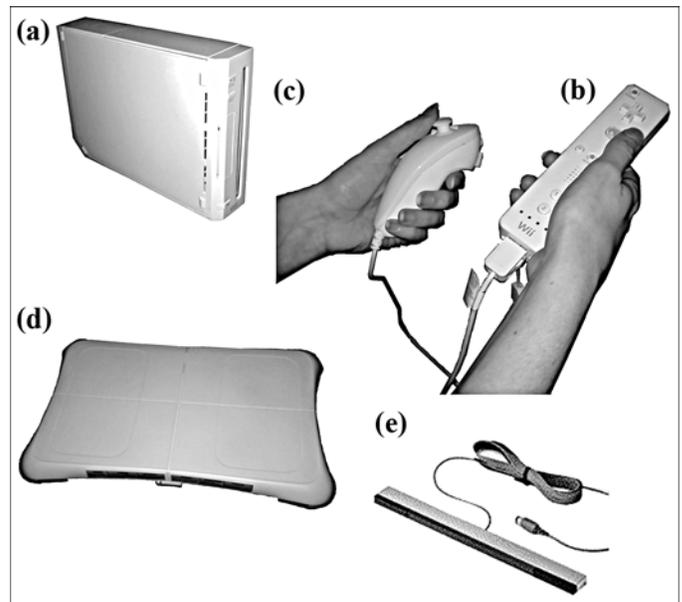
## Mental health diagnosis and occupational functioning in National Guard/Reserve veterans returning from Iraq

Christopher R. Erbes, PhD, et al.

Veterans from Operation Iraqi Freedom (OIF) and Operation Enduring Freedom can experience serious mental health problems, including posttraumatic stress disorder, alcohol abuse or dependence, and depressive disorders, that can make it hard to function at work or in school. This study examined 262 National Guard/Reserve veterans from OIF to determine the effect of mental health problems on occupational and academic role functioning. Although veterans with mental health problems were just as likely to be working or in school as those without those problems, they reported struggling significantly more in these roles. This highlights the importance of programs that support work and school role functioning.

## Activity-promoting gaming systems in exercise and rehabilitation

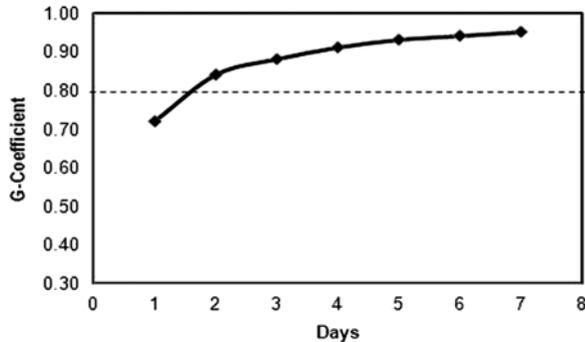
Matthew J. D. Taylor, PhD, et al.



Activity-promoting computer games such as the Nintendo Wii, Sony EyeToy, Dance Dance Revolution, and Xbox Kinect use player movement to control the action onscreen. It has been suggested that these gaming systems can be used as tools to increase activity levels in otherwise sedentary computer gamers and also be an effective tool to aid rehabilitation in clinical settings, although they can bring about their own injuries. The Nintendo Wii is currently used in medical centers as a tool to aid rehabilitation in both the United Kingdom and the U.S. Department of Veterans Affairs. Therefore, the aim of this work is to review the growing area of activity-promoting gaming in the context of exercise, injury, and rehabilitation.

### Reliability of daily step activity monitoring in adults with incomplete spinal cord injury

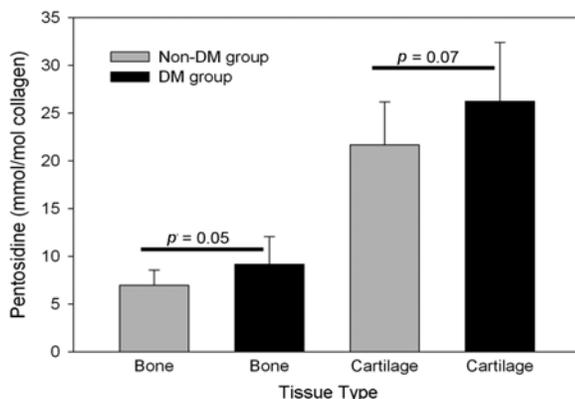
Saori Ishikawa, MS, ATC, CSCS, et al.



This study determined how many days of step activity monitoring are needed to obtain a stable measure of physical activity in adults with incomplete spinal cord injury. Our results demonstrate that averaging step counts over any 2 days of the week is sufficient to reflect walking activity in this physically challenged population. From a practical standpoint, findings from our investigation can be used by researchers and clinicians to describe the walking profiles of persons with spinal cord injury and to quantify gains made in physical activity status in this group following gait training.

### Arthroplasty in veterans: Analysis of cartilage, bone, serum, and synovial fluid reveals differences and similarities in osteoarthritis with and without comorbid diabetes

Trevor W. Oren, MD, et al.



Diabetes affects 20% of patients in the Department of Veterans Affairs Healthcare System and is known to harm many parts of the body, including the bones and joints.

This study measured the biological differences in bone and cartilage taken from total knee joint replacement surgeries of osteoarthritis patients with or without diabetes. We found that diabetes can harm these tissues, making osteoarthritis worse (and leading to earlier surgery) and/or slowing down bone repair after surgery. Clinicians should be aware that for bone healing, current blood glucose levels may be less important than long-term glycemic control. In summary, diabetes has some harmful effects on the health of veterans with osteoarthritis.

### Translating measurement findings into rehabilitation practice: An example using Fugl-Meyer Assessment-Upper Extremity with patients following stroke

Craig A. Velozo, PhD, OTR/L; Michelle L. Woodbury, PhD, OTR/L

We present a novel way to score a poststroke arm movement assessment. The scoring form allows a therapist to document whether a person can do easy, moderately difficult, or very difficult arm movements. A patient's pattern of scores illustrates how much arm movement he or she has recovered, specifies which movements are expected to recover next, and identifies movements that will take longer to recover. Using the scoring form, a therapist can establish shorter and longer term treatment goals appropriate for a patient's specific level of movement ability. This method should be clinically useful because it connects patient assessment results to patient treatment plans.

### Disease-modifying agents in progressive multiple sclerosis: Management of 100 patients at Louis Stokes Cleveland VAMC, Spinal Cord Injury Division

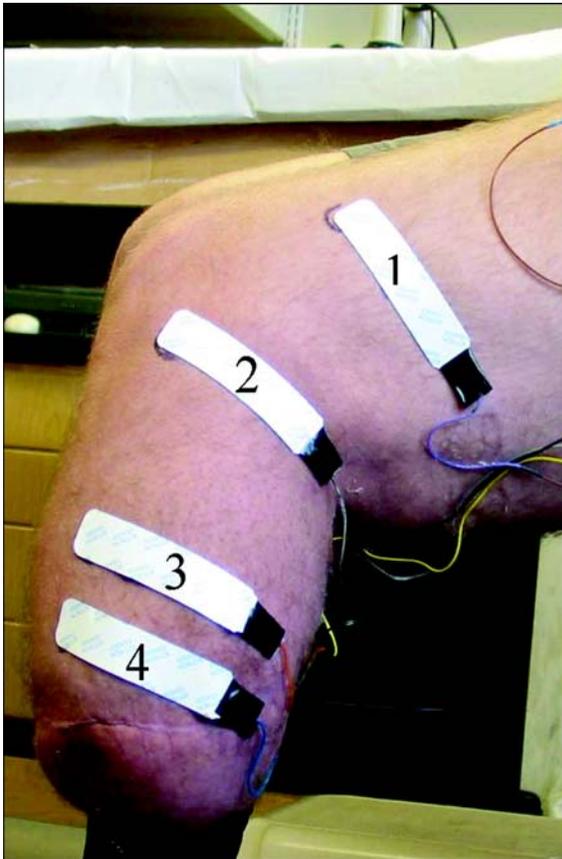
Saisho Mangla, BS, et al.

Multiple sclerosis (MS) is an inflammatory disease of the brain and spinal cord. It is a chronic disease affecting young adults. A significant number of patients with MS have a progressive form of the disease that results in increasing disabilities over time without improvement. Unfortunately, no medication exists to slow the disease in these patients. We reviewed the medical charts of progressive patients and found that many of them were prescribed MS drugs that were inappropriate. The use of these drugs in progressive patients exposes them to

potential side effects and diverts medical resources that could be used for supportive and symptomatic care.

### Effects of elevated vacuum on in-socket residual limb fluid volume: Case study results using bioimpedance analysis

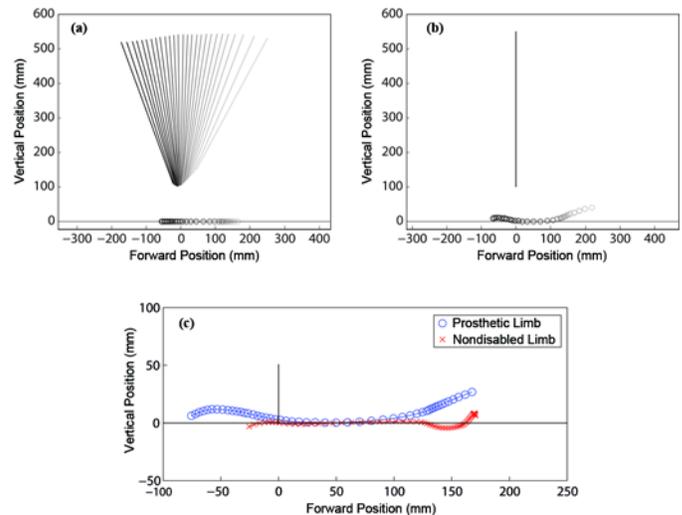
Joan E. Sanders, PhD, et al.



We measured changes in fluid volume inside the residual limbs of seven people with transtibial amputations while they walked with their prosthetic limbs. Bioimpedance analysis, a new technique in the prosthetics field, calculated limb fluid volume change. Results showed that, in general, fluid volume decreased less or increased more when the participants used elevated vacuum sockets than when they used low vacuum or suction sockets. Time of day, soft tissue, socket size, type of socket normally worn, and health might also affect fluid volume changes inside residual limbs.

### Determining asymmetry of roll-over shapes in prosthetic walking

Carolin Curtze, MSc, et al.



People with lower-limb amputation often desire to regain a symmetric gait pattern. In walking, the foot rolls over the ground from heel to toe, mimicking the shape of a wheel. This circular profile is also called “roll-over shape.” Determining roll-over shape can help identify asymmetry in prosthetic walking. We propose a method that allows quantifying these asymmetries. By considering an individual’s condition, this method may help us better understand an individual’s adjustment strategy in prosthetic walking. Furthermore, this may help people with amputation optimize symmetry in prosthetic walking.

### Effect of home-based exercise program on lymphedema and quality of life in female postmastectomy patients: Pre-post intervention study

Ajay P. Gautam, MPT, et al.

Lymphedema after a mastectomy is very common and affects arm functions and quality of life (QOL) for breast cancer patients. These patients are advised not to lift weights, which in turn leads to weakness of the affected limb, putting them at risk for injury while doing, for example, simple household tasks. In our study, 32 patients participated in an individualized home-based exercise program for 8 weeks. Before and after the program, we evaluated them for arm circumference, volume, and QOL. We found significant improvements in affected arm circumference and volume and also improved QOL after the exercise program.

**Repeated concussion among U.S. military personnel during Operation Iraqi Freedom**

Andrew J. MacGregor, PhD, MPH, et al.

Servicemembers who return to duty after a concussion are at risk of another concussion. Repeat concussions are known to have negative effects in civilians, but research in military personnel is limited. We studied the effects of repeat concussions in 113 combat veterans. We found that repeat concussions often occur within a short period of time, but time does not appear to affect severity of the second concussion or healthcare utilization. Only more severe repeat concussions were related to higher utilization of mental health and neurology services. Additional research should investigate the effects of repeat concussion on other health-related outcomes.