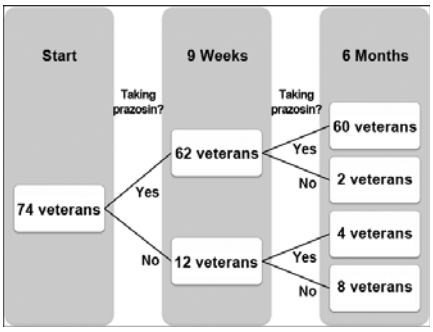
JRRD at a Glance

Improving sleep: Initial headache treatment in OIF/OEF veterans with blast-induced mild traumatic brain injury

Robert L. Ruff, MD, PhD, et al.



This was an observational study of 74 veterans of Operation Iraqi Freedom/Operation Enduring Freedom (OIF/OEF) who reported histories of exposures to explosions that produced mild traumatic brain injury (TBI), also called concussion. Each of these OIF/OEF veterans had headaches, and each had abnormal findings on neurological examination, performance deficits on neuropsychological testing, or both. They also had a high frequency of posttraumatic stress disorder (PTSD) and impaired sleep associated with nightmares. At baseline, they were having, on average, more than 12 headaches a month, peak headache pain of 7.28 on a 0 to 10 scale, increased daytime sleepiness (determined by the Epworth Sleepiness Scale [ESS]), and mild cognitive impairment on the Montreal Cognitive Assessment (MOCA). The veterans received sleep hygiene counseling and oral prazosin at bedtime. At the end of a 9-week intervention period, the 62 veterans who took prazosin had reduced headache pain and frequency and improved MOCA and ESS scores. We evaluated the veterans again at the end of a 6-month follow-up period, and the 64 veterans who were using prazosin showed further reduced headache pain and frequency and improved ESS scores. We believe that prazosin combined with sleep hygiene counseling is an effective initial intervention for veterans with mild TBI who have headaches and impaired sleep associated with PTSD. We suggest that sleep hygiene counseling may help veterans fall asleep and that prazosin prevents sleep interruptions by blocking nightmares. Improvement in sleep may contribute to improved cognitive function, headache control, and reduced daytime sleepiness.

Skin problems in individuals with lower-limb loss: Literature review and proposed classification system

Kelly M. Bui, MD, et al.

Skin problems on a residual limb affect the mobility and quality of life of individuals with limb loss. This article reviews the literature on skin problems in individuals with lower-limb loss. It highlights the extent of the problem and describes the types of skin problems commonly reported. For skin problems on residual limbs, we propose a standardized system of classification that may help healthcare providers assess, diagnose, and report skin problems in an appropriate and uniform manner.

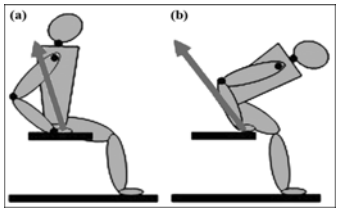
Relationship between depression and functional measures in overweight and obese persons with osteoarthritis of the knee

Daniel Possley, DO, et al.

Depression is common in individuals with chronic illness who are overweight and obese. We examined the relationship between depression symptoms, perceived physical function, and physical performance in 105 adults with osteoarthritis of the knee who were overweight and obese. Forty-two percent of the sample was classified as depressed according to the Center for Epidemiologic Studies Depression Scale. A moderate relationship was observed between perceived physical function and physical performance in patients who were not depressed that did not exist in patients reporting depressive symptoms. Poorer function and younger age accounted for 29% of the variance in depressive symptoms.

Does upper-limb muscular demand differ between preferred and nonpreferred sitting pivot transfer directions in individuals with a spinal cord injury?

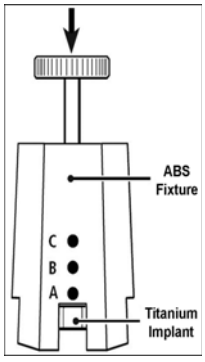
Dany Gagnon, PT, PhD, et al.



This study determined if upper-limb (UL) muscular effort was reduced when a person with spinal cord injury (SCI) performed a sitting pivot transfer in the preferred direction compared with that in the nonpreferred direction. The study group included 14 persons with SCI. Surface electromyography was used to record activity of key UL muscles bilaterally during sitting pivot transfers. These transfers were performed in each of the preferred and nonpreferred directions from each individual's wheelchair to a padded tub bench of even height. Similar peak muscular efforts were found between the preferred and nonpreferred transfer directions for all muscles. The peak muscular effort was also found to be similar between the leading and trailing ULs during the transfers in all muscles except one: the anterior deltoid solicited the most at the trailing UL. Comparable overall muscular work was calculated between the preferred and nonpreferred transfer directions for all muscles and between the leading and trailing ULs. These results indicate that direction preference expressed by individuals with SCI when transferring is not explained by relative muscular effort difference.

Effectiveness of resonance frequency in predicting orthopedic implant strength and stability in an in vitro osseointegration model

Brad M. Isaacson, BS, et al.



Early stabilization and transport of injured servicemembers from overseas conflicts have resulted in a large population of patients with limb loss who may need osseointegration technology because they have limited residual limb length. Developing noninvasive tools is critical for determining implant attachment strength to bone, and monitoring implant stability with resonance frequency will be important for optimizing rehabilitation protocols for patients with limb loss.

Reference equation for 6-minute walk in individuals with Parkinson disease

Michael J. Falvo, MS; Gammon M. Earhart, PT, PhD

The distance walked in 6 minutes is commonly used for assessing an individual's functional exercise capacity. Considerable information is available describing how healthy adults perform this test, including equations that predict results based on factors such as age, sex, or weight. However, these equations do not apply to adults with Parkinson disease (PD), which suggests that unique aspects of PD influence walking and turning abilities. We present a prediction equation that is specific to adults with PD in order to better characterize their functional exercise capacity.

Comparison of two approaches to screen for dysphagia among acute ischemic stroke patients: Nursing admission screening tool versus National Institutes of Health Stroke Scale

Dawn M. Bravata, MD, et al.

We compared two methods of screening for dysphagia (difficulty in swallowing) among veterans hospitalized with a stroke. The first method used a new questionnaire that was developed for nurses to give at admission to the hospital. This questionnaire asked stroke patients about 11 symptoms of dysphagia, e.g., cough after swallowing. The second method looked at the National Institutes of Health Stroke Scale (NIHSS), which measures the severity of a stroke and can also identify the presence of dysphagia. We found that the NIHSS better identified dysphagia than the 11 items from the nursing admission questionnaire.

Effect of He-Ne laser radiation on healing of osteochondral defect in rabbit: A histological study

Mohammad Bayat, PhD, et al.

Musculoskeletal system injuries (including joints and articular cartilage) are the most common wound types seen in modern warfare, accounting for well over half of all wounds. Recent studies indicate that articular cartilage lesions are classified as either full or partial thickness, depending on whether they extend to the subchondral bone. Historically, articular cartilage has had a weak

capacity for repair. Generally, the lesions that penetrate the subchondral bone (full-thickness defects) are repaired with various tissues from fibrous to fibrocartilage. However, reparative tissue, even histologically hyaline-like cartilage, lacks the biomechanical capabilities to express some cartilage-specific molecules, and its biomechanical durability is inferior to that of age-matched normal articular cartilage. Clinical procedures for repairing damaged articular cartilage have been attempted. Low-level laser therapy (LLLT) is broadly applied to the laser's therapeutic effects. The clinical application of LLLT is growing rapidly, and several reviews have been published. Since no reports have been published on the effect of a low-level He-Ne laser with a wavelength of 632.8 nm on healing large osteochondral defects in rabbits, this article examines the potential therapeutic effect of LLLT with an He-Ne laser on the histological parameters of healing a large osteochondral defect in rabbits.