

JRRD At A Glance Podcast Episode 37

Listen to the JRRD At a Glance Podcast Episode 37: Discussing Chronic pain and PTSD, ear prostheses, tinnitus management, and more from JRRD Volume 51, Number 4, 2014.

[Johanna Gribble]: This is episode 37 of the JRRD podcast for volume 51, issue 4, produced by the Journal of Rehabilitation Research and Development (JRRD) and the U.S. Department of Veterans Affairs. Hello, I'm Johanna Gribble.

[Ken Frager]: And I'm Ken Frager. You can find more information about the topics we are discussing today, along with detailed Power Point presentations on most of these articles, online at the Table of Contents page for issue 51-4 at www.rehab.research.va.gov.

[Johanna Gribble]: For more than 150 years, the Department of Veterans Affairs has held the care provided to Veterans with limb amputations as a high priority. To many Americans, the Veteran with an amputation epitomizes the sacrifices made on our nation's behalf. In 2008, because of the increasing evidence that servicemembers with combat-related amputations from the military conflicts in Iraq and Afghanistan would require lifelong monitoring from diseases such as diabetes and peripheral vascular disease, the VA implemented a "System of Care" to ensure accuracy and effective care. A guest editorial by several members of the VA group designated with implementing these standards is included in this issue, summarizing 5 years of progress.

[Ken Frager]: Little is known about the effectiveness of existing ankle assessment techniques for potential use in robot-assisted therapy, although ankle performance and function assessment is crucial for an effective ankle rehabilitation strategy. In their article "Reviewing effectiveness of ankle assessment techniques for use in robot-assisted therapy," the authors provide a comprehensive review of studies that investigated ankle measurement techniques in

an effort to better understand those that can be used in the real-time monitoring of rehabilitation progress for implementation in conjunction with robot-assisted therapy.

[Johanna Gribble]: Expiratory muscle strength training is a rehabilitative program for improving physiological outcomes related to breathing, voice, cough strength, and swallow function among people with Parkinson disease and other neuromuscular disorders affecting the central and peripheral nervous systems. Veterans make up a large portion of the population that can benefit from this treatment during rehabilitation. In their literature review, “Functional outcomes associated with expiratory muscle strength training,” Helena Luciuga and colleagues summarize the evidence to help rehabilitation specialists and patients considering this program

[Ken Frager]: Patients with posttraumatic stress disorder or traumatic brain injury may present with overlapping visual symptoms. In their article “Visual function, traumatic brain injury, and posttraumatic stress disorder,” Dr. Goodrich and colleagues examined visual function in patients with traumatic brain injury. The researchers found that patients diagnosed with both traumatic brain injury and posttraumatic stress disorder frequently reported similar visual problems; however, only traumatic brain injury was associated with visual loss and dysfunction.

[Johanna Gribble]: Many Veterans live with both chronic pain and posttraumatic stress disorder. However, it is unclear how these conditions are related. Increasing our understanding of this relationship could lead to more effective treatment for Veterans with both conditions. In their article “Pain experience of Iraq and Afghanistan Veterans with comorbid chronic pain and posttraumatic stress,” Dr. Outcalt and colleagues compare the results of interviews with Operations Iraqi Freedom and Enduring Freedom Veterans, some with chronic pain and others with pain and PTSD.

[Ken Frager]: In their article “Posttraumatic stress disorder symptoms, levels of social support, and emotional hiding in returning veterans,” Dr. Jeanne Duax and colleagues review the results of a brief survey given to Veterans who had returned from Operations Iraqi Freedom and Enduring Freedom deployments. They found that Veterans who reported symptoms of posttraumatic stress disorder showed high levels of holding back their feelings, thoughts, and difficulties from significant others, friends, and family. According to the authors, the postdeployment period is an important time for Veterans to reestablish social connections and readjust to civilian life. For Veterans with PTSD symptoms, disruptions in social support can interfere with recovery. The surveys reinforce that clinicians working with these Veterans should discuss attitudes related to emotional disclosure and social support.

[Johanna Gribble]: Dr. Katya Hill and her team evaluated the reliability of a procedure for measuring transcription of communication in Veterans with amyotrophic lateral sclerosis. The procedure was found to be highly accurate based on frequency of agreement ratio calculations across transcribers and raters. The results indicate that transcribing language samples using language activity monitor data is highly reliable and the fidelity of the process can be maintained.

[Ken Frager]: In the article “Reliability, agreement, and validity of digital weighing scale with MatScan in limb load measurement,” Senthil Kumar and colleagues review an effective and economical procedure using digital weighing scales to measure the loading of the legs when compared with expensive equipment such as MatScan. According to the authors, the research, which was intended to report on the trustworthiness of two digital weighing scales in measuring uneven load distribution in the legs, provides knowledge for clinicians, surgeons, and any

ordinary people to help in early detection and prevention of problems related to uneven loading on legs.

[Johanna Gribble]: In their article “Identifying position, visibility, dimensions, and angulation of the ear,” Kasim Mohamed and colleagues discuss a method for, and the variables associated with, assessing the position, visibility, dimension, and angulation of the ear of a specific facial form of an individual using facial plane landmarks and a reference plane indicator. The authors believe this technique could help in fabricating ear prostheses even in bilaterally missing ears to improve the appearance of the patient and reduce the work of maxillofacial prosthodontists.

[Ken Frager]: Tinnitus is the most common service-connected disability among Veterans, but management has been inconsistent across Department of Veterans Affairs hospitals. In their article “Development of a progressive audiologic tinnitus management program for Veterans with tinnitus,” the authors discuss a tinnitus-management protocol they developed and tested to help Veterans manage their reactions to tinnitus. Dr. Paula Myers and her team conducted staff training to develop patient education materials, which were then tested with audiology patients at the James A. Haley Veterans’ Hospital in Tampa, Florida.

[Johanna Gribble]: Dr. Marco Iosa and colleagues note that there has been an increasing use of accelerometers in the quantitative assessment of locomotor abilities in their article “Assessment of gait stability, harmony, and symmetry in subjects with lower-limb amputation evaluated by trunk accelerations.” However, the authors believe poor attention has been paid to people with amputation. The researchers discuss the effect of applying this technique to 22 people with transfemoral or transtibial amputation at dismissal from their rehabilitation hospital after a new

prosthesis delivery and compared the data with those of 22 age-matched nondisabled subjects. A reduction in gait stability, harmony, and symmetry was found, especially for subjects with transfemoral amputations using prostheses with a locked knee. This is an important step toward a quantitative clinical assessment of gait features in subjects with lower-limb amputation, including many Veterans.

[Ken Frager]: The clinical tool Assessment of Capacity for Myoelectric Control, or APMC, was developed to follow upper-limb prosthesis users' progress in learning to control their prostheses. In their article "Test-retest reliability and rater agreements of Assessment of Capacity for Myoelectric Control version 2.0," Dr. Helen Lindner and her colleagues examined the stability and amount of error in APMC results and found the results support the stability of the APMC, with a small amount of error. This study could benefit prosthesis users because the APMC results indicate whether the user improved in prosthetic control, therefore helping the therapist plan further training.

[Johanna Gribble]: Lower-limb paralysis and immobilization following a spinal cord injury predispose individuals to an increase in cardiovascular disease risk factors, including chronic inflammation. Participation in regular exercise can reduce the risk, in part because exercise may help to restrict the development of insulin resistance and atherosclerosis. In the article "Inflammation-mediating cytokine response to acute handcycling exercise with/without functional electrical stimulation-evoked lower-limb cycling," Thomas Paulson and others discuss whether the inflammation-mediating potential of handcycling exercise can be enhanced by the addition of concurrent electrical stimulation-evoked lower-limb cycling.

[Ken Frager]: In the case report "Colitis after polytrauma," Dr. William Carter and colleagues examine how delayed diagnosis and treatment for secondary conditions in rehabilitation, and

especially those with polytrauma, can lead to more costly and worse outcomes. A review of medical literature found that with multisystem injuries, some of the less urgent problems can be inadequately evaluated, resulting in delayed diagnosis.

[Johanna Gribble]: Finally, a case report by Dr. Serdar Kesikburun and colleagues sheds light on an uncommon complication of traumatic brain injury from a gunshot wound, where Veterans may experience teeth grinding, which can cause uncomfortable sleep patterns and torn teeth. The case report could help patients and healthcare providers learn how injections of Botulinum toxin might be an effective treatment option and what benefits it may have.

[Ken Frager]: Today's discussion focused on articles in JRRD volume 51, issue 4. These articles and many others can be read online at www.rehab.research.va.gov/jrrd. Just a reminder that the *JRRD At a Glance* section is available online in English, Spanish, and Traditional and Simplified Chinese! You can submit your comments on this podcast or request articles for us to highlight at vhajrrdinfo@va.gov. You also can "Get Social" with JRRD by "following" us on Facebook at JRRDJournal or on Twitter at JRRDEditor.

[Johanna Gribble]: Our thanks to JRRD's David Bartlinski for his audio engineering, recording, and editing to make this podcast possible. We would also like to thank all of our listeners for your support. We'd love to hear from you. For JRRD, thanks for listening.