

### **JRRD At A Glance Podcast Episode 36**

**Listen to the JRRD At a Glance Podcast Episode 36: Community reintegration, hydraulic ankle prostheses, pain education, and more from JRRD Volume 51, Number 3, 2014.**

**[Johanna Gribble]:** This is episode 36 of the JRRD podcast for volume 51, issue 3, 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 51-3 at [www.rehab.research.va.gov](http://www.rehab.research.va.gov).

**[Johanna Gribble]:** JRRD, along with 27 other rehabilitation journals, has agreed to take a more aggressive stance on the use of reporting guidelines. To ensure the quality of the disability and rehabilitation research that is published, the 28 rehabilitation journals simultaneously publishing this editorial believe it is imperative to support the highest quality research possible. With cuts in research funding, rehabilitation research is now under a microscope like never before, and it is critical that we put our best foot forward. You can read more about this effort and gain a better understanding about the reporting guidelines on our Web site.

**[Ken Frager]:** In a second guest editorial, "Toward a Veteran-Centric View on Community (Re)Integration," Drs. Theresa Crocker, Gail Powell-Cope, Lisa Brown, and Karen Besterman-Dahan provide a synopsis of the current state of research related to community "(re)integration" in OIF/OEF/OND servicemembers and Veterans that can serve to advance the science. It includes discussion of advances in defining and measuring community (re)integration, stakeholder response, and emerging needs. These researchers believe research on postdeployment health is critical to inform the development and dissemination of health services for Veterans.

**[Johanna Gribble]:** Functional testing has advantages for testing more than one component of the motor system at once and can indicate the effects of aging. Dr. Elizabeth Nightingale and colleagues reviewed findings from timed stair test studies and determined that they provide a reliable, stable measure of function to give medical and rehabilitation professionals information about patient progress, comparison with a healthy population, and further practical goals. The authors believe that because a timed stair test measures a greater range of motion in the lower limb and has greater strength demands and balance requirements, it may have additional benefits for testing patients who are younger or more functional despite their injury.

**[Ken Frager]:** Dr. Linda Resnik and colleagues continue to evaluate outcomes data from DEKA prosthetic arm testing. In their most recent article, the authors examined outcomes including dexterity, performance of daily activities, and prosthetic skill and spontaneity of users and to compare outcomes using the DEKA Arm and participants' existing prostheses. The authors found that dexterity and activity performance with the DEKA Arm varied by amputation level.

**[Johanna Gribble]:** In the article "Concordance of clinician judgment of mild traumatic brain injury history with a diagnostic standard," Dr. Terry Pogoda and colleagues looked at the relationship between clinician judgment of mild traumatic brain injury history and several diagnostic criteria and examined deployment-related and patient factors that are associated with inconsistencies.

**[Ken Frager]:** The number of veterans diagnosed with acquired brain injury continues to increase. Issues with upper-limb motor function and executive functioning can compromise one's ability to complete everyday activities. This article reports on changes in upper-limb motor and executive functioning of 12 adults with chronic acquired brain injury who participated in a

pilot study led by Dr. Douglas Simmons and colleagues, entitled “Computer-based virtual anatomical interactivity for rehabilitation of individuals with chronic acquired brain injury.”

**[Johanna Gribble]:** The World Health Organization has deemed stroke a worldwide health problem because it is very prevalent; causes disability; and burdens individuals, the community, and society. Many veterans are stroke survivors. A common side effect of certain strokes is aphasia, a chronic, pervasive, and debilitating language condition that can leave the survivor unable to work. This article highlights results of an important first-step study, “Anomia treatment platform as behavioral engine for use in research on physiological adjuvants to neurorehabilitation,” led by Dr. Diane Kendall and colleagues, that looks at potential benefits from medicines to enhance treatment effects.

**[Ken Frager]:** Veterans with psychiatric diagnoses have high rates of unemployment, and the Veterans Health Administration provides services to help Veterans with psychiatric diagnoses find employment. Using administrative health records to identify the percentage of patients with psychiatric diagnoses who received at least one employment services visit in a given year and to identify whether specific patient characteristics were associated with receiving employment services, researchers found that few VHA patients with a psychiatric diagnosis received employment services within 1 year. Of those who did find employment within the first year, patients with schizophrenia or bipolar disorder were more likely to receive employment services than patients with other psychiatric diagnoses. These findings are included in the article “Receipt of employment services among Veterans Health Administration users with psychiatric diagnoses,” by Dr. Kristen Abraham and colleagues.

**[Johanna Gribble]:** In their article “Prospective prediction of functional difficulties among recently separated Veterans,” Drs. Gerald Larson and Sonya Norman sought to understand what type of information about a servicemember preparing to leave the military might predict problems after leaving. Their findings reaffirm the importance for servicemembers to get help for posttraumatic stress disorder early to reduce long-term effect.

**[Ken Frager]:** A recently developed prosthetic foot with hydraulically controlled articulating ankle increased the minimum toe clearance during overground walking in people with transtibial amputation. This is important because, as Dr. Louise Johnson and colleagues describe in the article “Toe clearance when walking in people with unilateral transtibial amputation: Effects of passive hydraulic ankle,” adequate foot-ground clearance is critical to avoid tripping and falling, and people with amputation have been shown to have a higher risk of falling than nondisabled individuals.

**[Johanna Gribble]:** The large majority of prosthetic feet are made for low-heeled shoes. Only a few models allow a heel height of up to 5 cm. However, a survey by the American Podiatric Medical Association indicates that most women wear heels over 5 cm; thus, current prosthetic feet limit most female prosthesis users in their choice of footwear. In their article, “Development of inexpensive prosthetic feet for high-heeled shoes using simple shoe insole model,” Margrit Meier and colleagues describe their efforts to develop a practical new option that takes into consideration varying heel heights and the demands created by these variations.

**[Ken Frager]:** There are more than 250,000 people with high-level spinal cord injury in the United States, more than one-quarter being Veterans, and more than 12,000 cases added to this population every year. Jeonghee Kim and colleagues describe a new Tongue Drive System that

allows people with severe disabilities to control their environments using tongue motion with a small magnetic tracer. Their findings are presented in the article “Qualitative assessment of Tongue Drive System by people with high-level spinal cord injury.”

**[Johanna Gribble]:** People with disabilities can have difficulty using a computer and may type very slowly. A dynamic keyboard that predicts the next letter may be useful for people who cannot use a pointing device, according to occupational therapist Samuel Pouplin and colleagues. Their findings are included in the article “Effect of dynamic keyboard and word-prediction systems on text input speed in persons with functional tetraplegia.”

**[Ken Frager]:** Dr. Musa Audu and colleagues describe a method that uses musculoskeletal models and computer simulation to determine the effect of changing muscle activation on standing balance using functional neuromuscular stimulation. According to the authors, varying muscle activation reduces the effort exerted by the arms on a walker or other support device. The findings from their feasibility study, which are included in the article “Posture-dependent control of stimulation in standing neuroprosthesis,” are directly applicable to the health and well being of Veterans with spinal cord injuries.

**[Johanna Gribble]:** In their case report “Management of multijoint stiffness of bilateral upper limbs secondary to heterotopic ossification,” Dr. Hong-wei Min and colleagues report on research related to the effect heterotopic ossification has on the daily life of Veterans with traumatic brain injuries. Heterotopic ossification is the process of new bones forming in damaged tissue where bone is not normally found. The authors report that while Veterans experiencing this problem may initially be restricted in their daily activities, appropriate treatment can improve quality of life.

**[Ken Frager]:** Finally, in what is believed to be the first known investigation to examine patients' opinion and satisfaction of an empirically supported health education program catered to veterans who experience noncancer pain, "Pain Education School" combines educational, self-management, and technological tools to enhance patients' knowledge about treatment options and uses of medication and to ensure active collaboration in their healthcare needs. Study author Erin Watson found that satisfaction and opinion of the current program is invaluable in helping providers improve the existing program for current and future participants who share the same or similar condition and for the providers aiding in the facilitation of the program

**[Johanna Gribble]:** Today's discussion focused on articles in JRRD volume 51, issue 3. These articles and many others can be read online at [www.rehab.research.va.gov/jrrd](http://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](mailto:vhajrrdinfo@va.gov).

**[Ken Frager]:** 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. Don't forget to "Get Social" with JRRD by "friending" us on Facebook at JRRDJournal and following us on Twitter at JRRDEditor.