

JRRD At A Glance Podcast Episode 30

Listen to the JRRD At a Glance Podcast Episode 30: Single-topic section on outcome measures for veterans with lower-limb loss, and more from JRRD Volume 50, Number 7, 2013.

[Johanna Gribble]: This is episode 30 of the JRRD podcast for issue 50-7, produced by the Journal of Rehabilitation Research and Development (JRRD) and the U.S. Department of Veterans Affairs. Today we're discussing an issue with a single-topic section on Outcome Measures for Veterans with Lower-Limb Loss. Hello, I'm Johanna Gribble.

[Ken Frager]: And I'm Ken Frager. Health outcome measures are used to assess treatment effectiveness. Because technology and treatments have improved and more people are surviving what, in the past, would have been life-ending injuries, the quality of survival is becoming more important. 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 50-7 at www.rehab.research.va.gov.

[Johanna Gribble]: Continuing with our Then & Now reflective commentaries, Dr. Christina Kaufman states that in any scientific or clinical endeavor for the last 50 years or more, researchers and clinicians have proceeded with their best "guess" for patients in the hopes that their decisions are for the best. She says that the key to this process is reliance on colleagues to objectively review the progress and define challenges that must be overcome. Her commentary, "Limb transplantation: From a concept to reality over the last 50 years," addresses this topic and reflects on Dr. Rolf Dederich's "Skeptics view," which appeared in the second issue of JRRD in 1964.

[Ken Frager]: We hope you have been enjoying our “Then & Now” contributions, and we would really appreciate your feedback. This issue of JRRD also includes three guest editorials about outcomes measures in lower-limb loss rehabilitation medicine, including one editorial that looks specifically at the Comprehensive High-Level Activity Mobility Predictor, also known as CHAMP, covered as a research topic in this issue, and another from the perspective of a military physical therapist that addresses how outcomes measures can be beneficial.

[Johanna Gribble]: The opportunity for wounded servicemembers to return to high-level activity and return to duty has improved with advances in surgery, rehabilitation, and prosthetic technology. As a result, the CHAMP was developed to determine the level of progress toward high-level mobility in these patients during and after rehabilitation. Dr. Robert S. Gailey and his team hope CHAMP will help to more effectively predict whether and when male servicemembers with lower-limb loss are ready to return to Active-Duty or high-level activity following injuries.

[Ken Frager]: In the study “Comparison of 6-minute walk test performance between male Active Duty soldiers and servicemembers with and without traumatic lowerlimb loss,” Alison Linberg and her colleagues sought to establish reference data for a commonly used functional outcome measure, the 6-minute walk test, that will help clinicians and individuals with lower-limb loss track rehabilitation progress and set realistic goals for function and mobility.

[Johanna Gribble]: Dr. Vibhor Agrawal and colleagues compared microprocessor-controlled and conventional prosthetic feet with different ranges of motion at the ankle during stair negotiation to determine work symmetry. Their findings are included in the article “Comparison between

microprocessor-controlled ankle/foot and conventional prosthetic feet during stair negotiation in people with unilateral transtibial amputation.” Their research found that prosthetic users who encounter stairs frequently may benefit from a microprocessor-controlled foot.

[Ken Frager]: Dr. Michele Raya and her team tested the reliability and validity of three similar, yet distinct, agility performance tests to ascertain whether similar results were achieved when the tests were administered by different clinicians. Their findings, which appear in the article “Comparison of three agility tests with male servicemembers: Edgren Side Step Test, T-Test, and Illinois Agility Test,” show that used together, the three tests could potentially provide an accurate assessment of high-level mobility activities.

[Johanna Gribble]: Another study from the CHAMP project found that many servicemembers who experience traumatic lower-limb loss seek to return to high-level mobility activities; however, less than a quarter of them actually do. Dr. Gaunard and colleagues examined the possible relationship between different factors that can be affected by rehabilitation, other factors associated with lower-limb loss, and high-level mobility, as measured by CHAMP. Their findings are in the article “Factors related to high-level mobility in male servicemembers with traumatic lower-limb loss.”

[Ken Frager]: The remaining articles discussed in this podcast are from the multi-topic section. Using low-level laser therapy, a promising treatment for skeletal muscle recovery, used at two levels positively affected injured skeletal muscle in rats, speeding up the muscle-regeneration process. This could be beneficial to reducing length of stay for patients in rehabilitation centers with skeletal muscle injuries. These findings are included in the study led by Dr. Natalia Rodrigues, “Effects of 660 nm low-level laser therapy on muscle healing process after cryolesion.”

[Johanna Gribble]: A new portable hearing testing device, the OtoID, was designed to monitor hearing while Veterans undergo treatment for cancer. Since many Veterans enter treatment with hearing loss, minimizing any additional treatment-related hearing loss is very important. In their study, “OtoID: New extended frequency, portable audiometer for ototoxicity monitoring,” Dr. Marilyn Dille and colleagues found that the OtoID gives Veterans the ability to self-test and receive equivalent results to a provider’s.

[Ken Frager]: In the study led by Dr. Joan Sanders, “Influence of prior activity on residual limb volume and shape measured using plaster casting: Results from individuals with transtibial limb loss,” researchers showed that prior activity influenced residual-limb cast shape. This serves as a reminder to practitioners that activity levels of patients with amputation should be considered before casting for a new prosthetic socket.

[Johanna Gribble]: Dr. Ana Souza and colleagues evaluated 12 three-wheeled scooters to determine stability, safety, and durability and found that most of the scooters had different results on each standard test. Smaller scooters were more unstable and tended to fall to the side easily during sharp turns. Half of the scooters did not survive the time equivalent to 5 years of use as required by the standards. Their recommendations, which include an evaluation of the standard requirements and revisions to framework, are featured in “Evaluation of scooters using ANSI/RESNA standards.”

[Ken Frager]: Finally, Dr. Christof Smit and colleagues studied the use of electrical stimulation to aid in the reduction of pressure ulcers in patients with spinal cord injuries. Pressure ulcers are

the most prevalent secondary complications in individuals with spinal cord injury, and study participants found some relief using electrical stimulation shorts. The findings are detailed in “Prolonged electrical stimulation-induced gluteal and hamstring muscle activation and sitting pressure in spinal cord injury: Effect of duty cycle.”

[Johanna Gribble]: Today's discussion focused on articles in JRRD volume 50, issue 7. 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.

[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.