
CONTENTS

- iii Masthead
- vii Guest Editorial:
New directions in research bring new clinical challenges
Charles H. Dankmeyer Jr, CPO
- xi Guest Editorial:
Casting a vision for amputation rehabilitation
Kathleen E. Yancosek, MS, OTR/L, CHT
- xv JRRD at a Glance

Scientific/Technical Articles

- 293** Lower-limb amputee needs assessment using multistakeholder focus-group approach
Glenn K. Klute, PhD; Carole Kantor, MS; Chris Darrouzet, PhD; Helga Wild, PhD; Susann Wilkinson, MSW, MPH; Suzana Iveljic, MBA; Graham Creasey, MD, FRCSEd
- 305** Assessing the state of clinically applicable research for evidence-based practice in prosthetics and orthotics
Mark D. Geil, PhD
- 315** Mathematical modeling and mechanical and histopathological testing of porous prosthetic pylon for direct skeletal attachment
Mark Pitkin, PhD; Grigory Raykhtsaum, MS; John Pilling, PhD; Yuri Shukevych, PhD; Vladimir Moxson, PhD; Volodimir Duz, PhD; John Lewandowski, PhD; Raymond Connolly, PhD; Robert S. Kistenberg, MPH, CP, FAAOP; John F. Dalton IV, MD; Boris Prilutsky, PhD; Stewart Jacobson, DVM, DACVP
- 331** One hundred patients treated with osseointegrated transfemoral amputation prostheses—Rehabilitation perspective
Kerstin Hagberg, RPT, PhD; Rickard Bränemark, MD, PhD
- 345** On the way to total integration of prosthetic pylon with residuum
Mark Pitkin, PhD
- 361** Agonist-antagonist active knee prosthesis: A preliminary study in level-ground walking
Ernesto C. Martinez-Villalpando, SM; Hugh Herr, PhD

- 375** Transtibial amputee joint rotation moments during straight-line walking and a common turning task with and without a torsion adapter
Ava D. Segal, MS; Michael S. Orendurff, MS; Joseph M. Czerniecki, MD; Jane B. Shofer, MS; Glenn K. Klute, PhD
- 385** Early delayed amputation: A paradigm shift in the limb-salvage time line for patients with major upper-limb injury
Todd E. Burdette, MD; Sarah A. Long, BA; Oscar Ho, MD; Chris Demas, MD; John-Erik Bell, MD; Joseph M. Rosen, MD
- 395** A new option for amputees: Transplantation of the hand
Christina L. Kaufman, PhD; Brenda Blair, RN; Erin Murphy, BA; Warren B. Breidenbach, MD
- 405** Dynamic interface pressure distributions of two transtibial prosthetic socket concepts
Tim Dumbleton, BSc; Arjan W. P. Buis, PhD; Angus McFadyen, PhD; Brendan F. McHugh, PhD; Geoff McKay, PhD; Kevin D. Murray, PhD; Sandra Sexton, BSc
- 417** Differences in function and safety between Medicare Functional Classification Level-2 and -3 transfemoral amputees and influence of prosthetic knee joint control
Brian J. Hafner, PhD; Douglas G. Smith, MD
- 435** Walking mechanics of persons who use reciprocating gait orthoses
William Brett Johnson, BE; Stefania Fatone, PhD, BPO (Hons); Steven A. Gard, PhD
- 447** Development of hybrid orthosis for standing, walking, and stair climbing after spinal cord injury
Rudi Kobetic, MS; Curtis S. To, MS; John R. Schnellenberger, MS; Musa L. Audu, PhD; Thomas C. Bulea, MS; Richard Gaudio, CO; Gilles Pinault, MD; Scott Tashman, PhD; Ronald J. Triolo, PhD