



Prosthetic Poster Sessions

Friday, October 9, 2015

1:00 – 2:00 PM

A Return To Competitive Running Following Hip Disarticulation: Case Study

Robert Kuenzi, MS, CP

Individuals with lower limb loss and the goal of competitive running require prosthetic and physical therapy interventions that address deficits limiting performance of this high-level activity. In this case study, we detail the clinical decisions and rehabilitative interventions implemented to return an individual with an HD to competitive running.

An Alternative Method for Fabricating Trans-tibial Sockets through the Use of Socket Cones

Girma Bireda Assena

The direct socket cone method, allows the trans-tibial prosthetic socket to be manufactured directly onto the stump. Direct socket cone is a new technology that does not require high skills for fabrication. Could this be the technology of choice in the future?

Designing Prosthetic Arms with Intelligence and Reconfigurability (PAIR)

Taskin Padir, Assistant Professor, Robotics Engineering, WPI

This work presents initial research results to enable a natural and seamless interaction between humans and future prosthetic devices. In particular, high levels of situational awareness and adaptability of a prosthetic hand is investigated through the use of integrated sensing and actuation modalities at a portable form factor in a novel smart prosthetic hand.

Determining Compensatory Muscle Activations in Sprinters with Lower Limb Amputation

Jared Howell, MS, CPO, LPO

This novel research looks at compensatory muscle functions in US paralympic sprinters as compared with elite sprinters without amputation.

Fabric-Based-Sockets – Cooler, Lighter, And Greater Control

Jay Martin, CP, LP, FAAOP

Research and development in conjunction with NASA and the DoD has lead to significant enhancements in the next generation of fabric-based clinical prosthetic and orthotic interfaces. New fabric-based lower extremity transfemoral and orthotic interfaces are being developed to enhance comfort and functional outcomes. These new interfaces are cooler, lighter, and offer greater control and comfort than their conventional counterparts.

Metabolic Energy Consumption and Safety of Leg Orthoses: Comparison between C-Brace and Conventional KAFOs

Thomas Schmalz, PhD

The results of the present study confirm that the metabolic energy consumption of patients who start using the C-Brace tends to be slightly reduced after a certain period of adaptation compared

to conventional KAFOs. The increase in safety with the C-Brace is primarily to ascribe to the reliable functions of the microprocessor controlled system.

Report on an Upper Extremity Custom Myoelectric Orthosis Following Nine Months of Use

Haley Branch, CPO

Examine experiences of an end-user with an upper extremity (UE) custom myoelectric elbow-wrist-hand orthosis (EWHO) through the first nine months of use of the orthosis. This presentation will describe, present, and discuss the experiences of a user who was fit with the orthosis following a spinal cord injury (SCI) sustained in 2003.

Size Matters: A Case for Customizable Prosthetic Digits

Christopher Welch, BS

Today's prosthetic hands incorporate stock digits in a limited number of sizes, but finger size has implications for both aesthetics and functionality. We make the case that the field is ready and overdue for customized digits.

The Effect Of Integrated Microprocessor Controlled Knee-Foot For Inclined Walking – A Preliminary Study On LiNX

David Moser, PhD

This presentation will feature the assessment of braking assists on an integrated microprocessor controller knee and foot system specifically the LiNX prosthesis when walking down inclines.

Use of a Prosthesis Simulator in Upper Limb Prosthetic Training and its Impact on Functional Outcomes

Debra Latour, MEd, OTR/L

The concept of using prosthetic simulators has been utilized for decades to impart empathy and facilitate understanding for the strategic motor planning required to operate the body-powered technology. Little has been discussed regarding the use of such simulators in the academic preparation of occupational therapy practitioners. Discuss how students of occupational therapy can develop an understanding of the diverse prosthetic technology, attributes and mechanisms involved in skills development, and the actual functional skills including social integration.

Vacuum Pressure as a Tool to Assess Prosthetic Socket Fit and Inform Clinical Decisions

Matthew Wernke, PhD

Current clinical practices lack a method to quantify socket fit. Recent developments leveraging sub-atmospheric pressure generated by the LimbLogic elevated vacuum suspension system allows for analysis of socket fit and inform clinical decisions. This study will show bench-top and subject testing results.

What People Want in a Prosthetic Foot: A Focus Group Study

Kate Allyn, LCPO, FAAOP

There have been few published accounts focused on people's experience with prosthetic feet. Increase your understanding of the impact of prosthetic feet with participation from the experience of prosthetic users and professionals.



Questions?

Contact AOPA headquarters at assembly@aopanet.org or (571) 431-0876

Registration and travel information is available at www.AOPAnet.org

We look forward to seeing you in San Antonio, October 7-10 at the Henry B. Gonzalez Convention Center, 200 Market Street, San Antonio, Texas.