Orthotic Poster Sessions

Thursday, October 8, 2015
1:00 – 2:00 PM

Carter Cuff - Kinesiology Study
Andrew Carter, JD

Carter Cuff upper extremity exercise devices in various sizes were distributed to two undergraduate upper-division Kinesiology research classes at San Francisco State University. Each class was divided into seven groups (Trainee, Exercise Physiology, Biomechanics, EMG, Physiology, Marketing and Coordination). This presentation will discuss their results.

Distinguishing Categories of Medial Column Ligamentous Failure
Ian Engleman, MS, CPO

The recent advancements in 3-D rendering allow a more compelling and revealing look at the pathomechanics of medial instability. Distinguishing these by their ligamentous roots provides more accurate descriptions for the biomechanical presentation. Perhaps this will lead to more specific and effective orthotic management.

Dynamic Stretching for Contracture Management
Edna Hulley, BOCO

This research provides details regarding the orthosis and methodology of a patient's progress towards increased knee extension ROM. The patient's end goal is to stand and walk again after suffering an incomplete spinal cord injury from MVA.

Effect of Open Calcaneus Carbon Composite AFO on Gait of an Individual with Spinal Cord Injury
Vincent DeCataldo, BOCPO, NJ LPO

A 27 year old female who sustained a spinal cord injury tested the effects on gait wearing a solid plastic rigid AFO versus a rigid dynamic carbon composite (RDCC) AFO with an open calcaneus. The RDCC AFO provided the maximum function for this patient by increasing speed and cadence while decreasing pelvic motion. The RDCC AFO provided support for weakened musculature, specifically addressed excess plantar flexion during initial contact, stabilized the joint for effective push-off during late stance, and prevented toe-drag during swing.

Incorporating Alternative Orthotic Designs into Your Practice
Kevin Matthews, CO

Learn alternative orthotic designs, their uses and how to incorporate them into your practice.

Literature Review: Historical Overview of the Use of Myoelectric Control in Orthotics
Matthew Korn, CO, MSPO

This presentation analyzes literature on myoelectrics in the field of orthotics, and its historical functional benefits in patient outcome, specifically, involving repetitive task practices for motor nerve function improvement as well as patient confidence and performance in completing activities of daily living.

Maximizing Functional Outcomes Utilizing Objective Gait Analysis A Case Study: Charcot-Marie-Tooth Orthotic Treatment Interventions
Vincent DeCataldo, BOCPO, NJ LPO

Gait parameters of a 39 year old female with Charcot-Marie-Tooth were evaluated utilizing three different bilateral conditions. She was fit with custom fit dynamic carbon composite AFO designs, including one without adjustment, one with increased rigidity without adjustment, and one with the same increased rigidity with an adjustment to customize the orthosis for the heel height of the shoe. Temporal-spatial and pelvic motion was collected utilizing a BTS G-Walk Portable Gait Analysis System placed at the L5 vertebral level.

New Material and Technique to Fabricate a Custom Bi-valve LSO or TLSO
Vincent DeCataldo, BOCPO, NJ LPO

There are occasions in O&P patient care when fabricating an LSO or TLSO for an immediate fit would benefit the patient and meet the needs of the referral source. As opposed to taking the time for in-house fabrication or waiting for the arrival of a device from a central fabricator, this program will present a material and technique to meet the stat prescription.

Orthotic Management following Cervical and Lumbar Osteotomy, Intraoperative HALO Application: A Case Report
Eric Broekhuizen, CO

A case study of the orthotic management for a patient following a staged surgical approach of cervical and lumbar osteotomies. This includes intraoperative HALO application, SOMI cervical thoracic orthosis, cervical collar and custom and bivalve total contact TLSO.

Pediatric Partial Foot Prosthesis: A New Treatment Option
Vincent DeCataldo, BOCPO, NJ LPO

A 7 year old female with quadramembral longitudinal partial foot and hand amputations was tested for the effects of wearing high top shoes, shoes with toe filler inserts and a tibial tubercle height rigid dynamic carbon composite (RDCC) AFO with custom prosthetic toe filler inserts. Pelvic kinematic data and temporal special data was compared between the three conditions. The RDCC AFO condition was shown to improve pelvic motion and improve overall function.

Physics and Chemistry in O&P
Alexander Leos, CFo, LOA

This presentation covers a variety of first semester and second semester college level physics along with inorganic chemistry concepts, and ties them to O&P concepts explaining the science going on behind the scenes of what we do every day.

Preliminary Results from the C-Brace® Retrospective Registry--In Search of Standards of Care

Russ Lundstrom, MS

Preliminary results for a C-Brace retrospective registry were designed reflecting the results of the following goals: to gather safety and effectiveness data from patients that have been fitted with a C-Brace, and to discover what assessments are routinely performed at clinics as a part of evaluating C-Brace patients. These results are presented to establish an understanding of a "best practice" standard of care and lead to the conclusion that outcome measures, obtained at both baseline and follow-up, are needed to support reimbursement, indicating the need for a Prospective C-Brace Registry.

Strength, Function and Gait Improvements with use of Novel Knee Brace for End Stage Arthritis, A Randomized Control Trial

Anil Bhave, PT

The use of novel pneumatic knee braces with extension assisted bands, used 3 hours per day showed significant improvement in muscle strength, functional tests and gait parameters after 90 days of use. All the testing was performed without a brace to evaluate the carry over effect of the brace. Use of the brace resulted in lower incidences of Total Knee Arthroplasty surgery.