DOWNLOAD PDF INTERNATIONAL STUDY WEEK ON PROSTHETIC/ORTHOTIC EDUCATION

Chapter 1 : Exhibitors | AOPA â€“ AMERICAN ORTHOTIC & PROSTHETIC ASSOCIATION

International Study Week on Prosthetic/Orthotic Education: proceedings of an International Study Week on Prosthetic/Orthotic Education organised by the National Centre for Training and Education in Prosthetics and Orthotics, University of Strathclyde, Glasgow, July , under the auspices of the International Society of Prosthetics.

A Comparison of Prosthetic Mobility in Transfemoral Amputees with Osseointegrated Prosthesis Versus Traditional Socket Prosthesis Robert Gailey, PhD Anat Kristal, MSc-PT Review a comparison of two groups of unilateral transfemoral amputees, one group with osseointegrated prostheses versus a matched group with traditional socket prostheses; and determine if differences exist in prosthetic mobility using both performance-based and self-report outcome measures. A Comparison of Transfemoral Interface Design: A net braking force was measured in the SOC socket, while a net propulsive force was measured using the HiFi. Determine the feasibility of the EAP pads being incorporated into prosthetic liners or sockets and review the creation of prototypes of these EAP based pads. Review the findings and implications of this new device. Analysis of Bilateral Trans-Femoral Amputee Gait using Three Different Shorty Feet Todd Sleeman, CP Bilateral trans-femoral amputees often utilize shorty feet not just for initial rehabilitation, but for activities where they feel safer or more comfortable not utilizing knee joints. Potentially detrimental compensatory motions are possible. This poster looks at kinematic and dynamic data comparing three different foot conditions. Review a format for future consensus processes related to assessment of clinical tasks in prosthetic and orthotic education. Assistive Technologies for Pain Management in Amputees: A Review Kamiar Ghoseiri, PhD Residual limb pain and phantom limb pain are common complaints of people with amputation. More attention to resolve post amputation pain is required from researchers, clinicians, designers, engineers and manufacturers. Biomechanical Improvements of the Genium Prosthetic Knee and Their Clinical Validation Philipp Kampas Review the functional changes introduced with the next generation of the Genium Prosthetic Knee and its effect on clinical outcomes observed during the validation within a multicenter clinical trial. Changes in Postural Steadiness Following Trans-Tibial Amputation Hamid Bateni, PhD Assessment of postural steadiness in both time and frequency domain can reveal a new aspect in assessment of balance and postural control among amputees and can lead to more effective training exercises as well as optimizing prosthetic component designs to reduce accidental falls among this population. Associated Factors and Potential Benefits Williams Gibbs, CP Christopher Wong, PT, PhD Review new findings regarding which characteristics of people with limb loss are most likely to identify future committed participants in a wellness walking program. Having adequate physical ability and an intrinsic motivation to attend appear to be important and may help people with limb loss develop prosthetic function in the future. Results lead to the conclusion that comorbidities do not preclude functional mobility with a prosthesis. A Test-Retest Reliability Study Jefferson Cardoso, PT, PhD, MHPE Results will be presented that provide a reliable dynamic balance test for community-ambulating adults with a unilateral lower-limb amputation as well as values to identify changes in status with respect to prosthetic modifications or therapeutic interventions. Postural sway is quantified and time and frequency domain variables are computed and compared for different levels of amputation. This comparison will reveal impact of level of amputation on both postural steadiness use of time series and underlying strategies of control frequency domain variables. Examining Use of Lower Limb Prostheses in Older Adults with Amputations following Inpatient Prosthetic Training Brittany Pousett, CP C , MSc Significant resources are dedicated to provide training for individuals with lower extremity amputations, but little information is known about how older adults with amputations use their prostheses upon discharge from inpatient rehab programs. StepWatch Activity Monitors, the Prosthetic Profile of the Amputee questionnaire and semi-structured interviews were used to explore how older adults used their prostheses after being discharged from rehab. Review different use patterns that emerged and and how this information will shape prosthetic rehab programs. A Preliminary Report Matthew Wernke, PhD It is generally believed that

motion of the limb within the socket should be eliminated, however there is little understanding as to the effects of motion on limb health. This poster will review the impact of motion on the health of the residual limb using quantitative outcomes. The ultimate strength of the sockets were tested as per ISO standards at initial contact of the gait cycle. How Reproducible are the Effects of a Microprocessor Foot? This poster demonstrates that the same biomechanical changes are reproducible in repeated gait analysis sessions over time. Inhibiting Pseudomonas Aeruginosa Growth Associated with Prosthetic Liners John Jarrell, PhD, PE Evaluate a titanium and silicone hybrid cleaning and coating technology containing a silver fatty acid complex against the odor producing, Gram-negative, facultative anaerobe, Pseudomonas aeruginosa using a Kirby Bauer test. Paradoxically, uncoated hybrid gel liner materials with residual lubricants acted as chemo-attractants and increased bacterial growth. Previous studies have shown improvements in gait when using damped prosthetic ankle joints. This poster will investigate the biomechanical effects of a hydraulic ankle-foot prosthesis during gait in an individual with a transfemoral amputation. Review the findings of a patient trial of a new, perforated, pin-lock prosthetic liner, engineered for improving sweat management. Review semi-structured interviews which were conducted with prosthetists, physical therapists, and physicians to collect information about space, equipment, and time availability, and clinical value of performance tests. Review if there are significant differences in recovery time to initial prosthetic casting or associated healthcare dollars based on the type of postoperative rigid dressing applied to the trans-tibial residual limb. Improving postoperative management strategies and standardizing trans-tibial postoperative care may reduce recovery duration and health care dollars associated with amputation. Prosthetic Socket Material Analysis and Clinical Outcomes Garrett Hurley, CPO Material properties of two dynamic modular sockets and four standard of care, conventionally laminated sockets vacuum-formed flexible inner liner with carbon fiber and thermoset acrylic resin composite frame were measured using an Instron compression machine. Separately, amputees volunteered to participate in outcome measures Hanspal Socket Comfort Scores and functional outcome measures for the same types of prosthetic sockets that were measured in the material analysis; dynamic modular sockets and conventionally laminated sockets. Review the results which suggest that prosthetists should closely consider the amount of rigidity needed for their patients and that conventionally laminated sockets may be excessively rigid. The resulting, ultra low inertia, testifiable, and predictable by calculation, improves socket comfort, and increases compliance endurance. A Case Study Stephanie Huang, PhD Analyze a case study of one representative transtibial amputee learning to use their residual muscles for direct control over powered ankle behavior using continuous proportional myoelectric control for voluntary postural control. Initial results show that some materials and print methods met the standard and others did not. Such an effect has been proven to apply to gait variation of persons with lower limb prosthetic devices. Investigate whether the implementation of a virtual reality headset could mitigate the Hawthorne Effect during a clinical evaluation.

Chapter 2 : Orthotists and Prosthetists: Jobs, Career, Salary and Education Information

Prosthetics and Orthotics International, ,2, Sl Education in prosthetics and orthotics J. HUGHES National Centre for Training and Education in Prosthetics and Orthotics.*

Physical Sciences A mechanic may be defined as someone who performs manual work in the fabrication of some structure or device. As such, the prosthetist-orthotist has functioned as a mechanic for hundreds of years. The shortcoming in this approach is that the mechanic or technician , not being exposed to many of the relevant principles evolving from the physical sciences, is taught to reapply the techniques he has learned in all situations with minimal variation. Basic physics and chemistry, mechanics the branch of physical science that deals with forces and energy and their effect on bodies , and properties of materials are the particular areas of concern to the prosthetist-orthotist. Fundamental principles derived from such studies are requisite to the design and production of prosthetic-orthotic devices. It is also clear that little can be accomplished towards learning and applying these principles without a command of basic mathematics and geometry. Consequently, the study of all of these subjects becomes important. Biological Sciences The mechanical product machine which the prosthetist-orthotist fabricates must be integrated with a biological entity the human being. It must be fitted and worn in the closest intimacy to the body of the wearer for the purpose of improving the physical resources of that individual. In view of this, knowledge from the biological fields of anatomy, physiology, and kinesiology is indispensable for the qualified practitioner. In recent years, we have begun to learn some new things about how the human body functions as a mechanical system. This field of knowledge is called "biomechanics" and the adequacy of efforts at physical restoration is completely dependent upon a grasp of this new science, the principles of which govern the motions of the human body. Since the patients treated in the prosthetic-orthotic field all have some form of neuro-musculoskeletal disorder, the study of biological science must extend into the areas of pathology and pathomechanics, that is, abnormal as well as normal function. Psychological Sciences Since the prosthetist-orthotist creates a product to be worn by a human being, success or failure will be influenced by the opinions, attitudes, feelings, likes and dislikes of that human being. The experienced prosthetist-orthotist knows that in many instances the critical problem in the successful fitting of a prosthesis or an orthosis lies with the psychology of the wearer rather than in any physical or biological problem. Patients, peers, professional colleagues, and prosthetist-orthotists themselves must be viewed in psychological terms and dealt with in a similar manner. Mechanical Skills In spite of the stress placed on the academic and theoretical knowledge required by the prosthetist-orthotist, we do not intend to underestimate the mechanical abilities involved in the fabrication of an appliance. Communication Skills The need for adequate abilities in the use of the spoken and written language must not be overlooked. There is no possibility of the prosthetist-orthotist being able to communicate his ideas, opinions and points of view to his patients or to his professional associates without an adequate command of language skills. Personal and Cultural Qualifications Lastly, there is the need for the prosthetist-orthotist to be a well-informed, cultured citizen so that in his social and professional behaviour he may be respected as a mature, understanding person in many areas rather than considered a narrowly informed individual. The personal and personality characteristics of people in professional work are of the utmost significance, since the ability of a patient to accept service is directly related to his opinion of the individual providing the service. It is mandatory, therefore, that the professional prosthetist-orthotist be offered the opportunity for broad educational and life experiences. We have, then, specified the areas of knowledge from which subject matter should be drawn, and oriented the curriculum content towards the goals represented by the professional responsibilities of the prosthetist-orthotist. Therefore, training in the production of such items as prosthetic feet and orthotic joints need not be offered. Rather, there is a considerable and growing degree of overlap in the knowledge and skill required in both areas. Therefore, the educational programme should offer concurrent training in both specialities. The academic level of the education programme and the value and acceptance of the degree or

diploma issued on successful completion of the course of study should be comparable to that of other health professionals therapists, counsellors, etc. The training should be offered by an existing, accredited, recognised educational institution at the post-secondary school level. For some years, we at New York University have been conducting a prosthetics-orthotics education programme to prepare individuals for entry into the field and, because of the considerable thought that has been devoted to it, I will venture to use our own programme as a basis for a suggested curriculum. The courses listed in Table 1 comprise a four-year programme of academic credits with a total of 4, hours of classroom instruction 1, hours of lecture and demonstration, and 2, of laboratory experience. Upon successful completion of the curriculum, the student is awarded the degree of Bachelor of Science. It is important to note that the last group of courses entitled "Professional Specialization" accounts for approximately 60 per cent of the total number of instructional hours. When the additional 10 per cent devoted to "Manual Skills and Concepts" instruction is added one approaches 70 per cent of the total class contact hours for the specialized prosthetic-orthotic training. This reflects the considerable amount of time required to develop the necessary prosthetic-orthotic skills. However, even with this substantial time allocation, we find it necessary to be very selective and to limit the variety and types of prostheses and orthoses fitted and fabricated by the students so as to assure their unquestioned understanding of basic principles and procedures. Space will not permit any further discussion of the detailed content of the specialized prosthetic-orthotic courses. It will suffice to point out that considerable agreement regarding the topics to be covered in these specialized courses was achieved at the International Study Week on Prosthetic-Orthotic Education sponsored by the University of Strathclyde, Glasgow in July, and outlined in the associated publication Hughes, In conclusion it may be of interest to mention briefly that long-term training opportunities are available in prosthetics and orthotics throughout the world. Detailed information on fourteen institutions offering such programmes was identified at the International Study Week. There is reason to hope and expect that this number will increase in the years ahead. Curriculum considerations in the education of the professional prosthetist-orthotist. Professional education in prosthetics and orthotics. Four-year prosthetic-orthotic education programmes in the U. Report of International Conference on Prosthetics and Orthotics. Qualifications for prosthetists and orthotists. Report of the Inter-regional seminar standards for the training of prosthetists. July , Holte, Denmark.

DOWNLOAD PDF INTERNATIONAL STUDY WEEK ON PROSTHETIC/ORTHOTIC EDUCATION

Chapter 3 : List of Schools | NCOPE - National Commission on Orthotic and Prosthetic Education

International Study Week on Prosthetic/Orthotic Education, Hughes, J.. HMSO, Edinburgh Google Scholar International Society for Prosthetics and Orthotics.

Both orthotists and prosthetists must complete a residency before they can be certified. These programs include courses in upper and lower extremity orthotics and prosthetics, spinal orthotics, and plastics and other materials used for fabrication. In addition, orthotics and prosthetics programs have a clinical component in which the student works under the direction of an orthotist or prosthetist. Requirements vary by program. Candidates typically complete a 1-year residency program in either orthotics or prosthetics. Individuals who want to become certified in both orthotics and prosthetics need to complete 1 year of residency training for each specialty or an month residency in both orthotics and prosthetics. Licenses, Certifications, and Registrations for Orthotists and Prosthetists Some states require orthotists and prosthetists to be licensed. States that license orthotists and prosthetists often require certification in order for them to practice, although requirements vary by state. Many orthotists and prosthetists become certified regardless of state requirements, because certification demonstrates competence. Important Qualities for Orthotists and Prosthetists Communication skills. Orthotists and prosthetists must be able to communicate effectively with the technicians who often fabricate the medical devices. They must also be able to explain to patients how to use and care for the devices. Orthotists and prosthetists must be precise when recording measurements to ensure that devices are fabricated and fit properly. Orthotists and prosthetists may work for long periods with patients who need special attention. Orthotists and prosthetists must be good at working with their hands. They may fabricate orthotics or prosthetics with intricate mechanical parts. Orthotists and prosthetists should be comfortable performing physical tasks, such as working with shop equipment and hand tools. They may spend a lot of time bending over or crouching to examine or measure patients. The median wage is the wage at which half the workers in an occupation earned more than that amount and half earned less. The median annual wages for orthotists and prosthetists in the top industries in which they work are as follows:

Chapter 4 : Orthotic / Prosthetic Technician Program (S)

ISPO. The International Society for Prosthetics and Orthotics (ISPO), is a multi-disciplinary organization comprised of persons who have a professional interest in the clinical, educational and research aspects of prosthetics, orthotics, rehabilitation engineering and related areas.

Chapter 5 : Orthotist & Prosthetist

Education in prosthetics and orthotics courses was achieved at the International Study Week on Prosthetic-Orthotic Education sponÂ- International Study Week.

Chapter 6 : Accredited Practitioner Programs | NCOPE - National Commission on Orthotic and Prosthetic E

International Students Thank you for your interest in the Master of Prosthetics-Orthotics Program. UT Southwestern is a dynamic and diverse learning community that welcomes hundreds of students from around the world each year.

Chapter 7 : Specialized Courses in Orthotics and Prosthetics â€“ Human Study e.V.

Orthotic/Prosthetic Technician is a practice-oriented, hands-on program that teaches students to be competent in the use of many hand tools and specialized machines for the fabrication of orthotic and prosthetic devices.

DOWNLOAD PDF INTERNATIONAL STUDY WEEK ON PROSTHETIC/ORTHOTIC EDUCATION

Chapter 8 : Scholarships // O&P Careers: Make a Career of Making a Difference

need for a prosthetic and an orthotic course at this level was already mentioned in At his time an international study week on prosthetic / orthotic education took.

Chapter 9 : International Society for Prosthetics and Orthotics [WorldCat Identities]

Orthotic and prosthetic programs train students in conceptualizing, creating, fitting and measuring artificial limbs and body braces. The industry standard for employment as an orthotist is.