


1. Montag 10.05.2010 | 10:30 - 13:45 | Saal 1 | Themenblock

[4080]

Eröffnungsveranstaltung mit anschließendem Empfang

1 / 5	Begrüßung	Forst , Raimund (DE) Orthopädische Universitätsklinik der FAU Erlangen-Nürnberg
2 / 5	Grußwort	Jung , Burkhard (DE)
3 / 5	Grußwort	Jüttner , Frank (DE) Bundesinventionsverband für Orthopädie-Technik
4 / 5	Ansprache	Blocka , Daniel (CA) International Society for Prosthetics & Orthotics
5 / 5	Knud-Jansen-Vortrag: Die ISPO und der Leahy War Victims Fund von USAID - 15 Jahre Partnerschaft zur Förderung von Dienstleistungen in der Orthopädie-Technik in Entwicklungsländern <i>Dieser Vortrag gibt einen Überblick über die Geschichte der 15-jährigen Partnerschaft zwischen dem Patrick J. Leahy War Victims Fund von USAID und der ISPO, die bisherigen Leistungen und die aktuellen Projekte. Es wird auf die Entwicklung der Beziehung zwischen den beiden Organisationen eingegangen, die gemeinsamen Erfahrungen sowie die unzähligen Herausforderungen, mit denen die Schaffung einer nachhaltigen Orthopädie-Technik und physikalischen Rehabilitation in den Entwicklungsländern verbunden ist.</i>	Feinberg , Lloyd (US) USAID United States Agency for International Development

2. Montag 10.05.2010 | 14:00 - 14:30 | Saal 1 |  Keynote-Vortrag

[3620]

Lernende Systeme

Keynote Redner: **Riedmiller**, Martin , Prof. Dr. (DE) | Albert-Ludwigs-Universität Freiburg

Zusammenfassung: *Wenn technische Systeme sich in immer komplexeren realen Gegebenheiten zurechtfinden sollen, stößt das klassische Prinzip einer von Hand vorprogrammierten Funktionsweise klar an seine Grenzen. Es besteht daher ein immer stärkerer Bedarf an „lernenden“ Systemen, d. h. Systemen, die in der Lage sind, sich anzupassen und ihre Funktionsweise auf der Grundlage von Erfahrungen zu verbessern, ebenso wie ein Mensch sein Verhalten ändern würde.*

3. Montag 10.05.2010 | 15:00 - 16:30 | Saal 1 |  Symposium | Unterthema/Track: Amputation/Prothetik

[3498]

Individualarmprothesen - Aufbau, Gestaltung und Schnelle Fertigung

Themenblock Vorsitz: **Heckathorne**, Craig (US) | Northwestern University

Themenblock Vorsitz: **Meier**, Margrit , Dr. (UK) | University of Strathclyde National Centre for Prosthetics and Orthotics

Zusammenfassung: *Customization of upper-limb prostheses is a crossroads of art, design, and fabrication technology. It addresses the functional needs of the user from aesthetics to manipulation. This symposium will present examples of custom upper-limb prostheses, both anthropomorphic and non-anthropomorphic, drawn from a variety of disciplines, including art, industrial design, engineering research, product development, and clinical prosthetics. Rapid prototyping and rapid manufacturing techniques will be examined for their role in customization and impact on the future of upper-limb prostheses.*

1 / 3	Hochleistung in der Armprothetik <i>High Performance in Upper Extremity Prosthetics: Surpassing the Limitations Imposed by Purely Anthropomorphic Design High performance activities are possible and achievable for persons wearing an upper extremity prostheses if the prothesiss design is allowed to expand beyond the limitations imposed by trying to imitate human morphology.</i>	Radocy , Robert (US) TRS Inc.
2 / 3	Individualarmprothesen - Einführung in die Schnelle Fertigung <i>The State of the Art of rapid manufacturing will be reviewed. Technology for single unit and short-run production will be presented highlighting strengths and weaknesses of various methods in terms of cost, production time, mechanical characteristics and versatility.</i>	Rolock , Joshua (US) Northwestern University
3 / 3	Individualarmprothesen - Aufbau, Gestaltung und Schnelle Fertigung, Gestaltung und Anpassen von Individualprothesen	Uellendahl , Jack (US) Hanger Prosthetics and Orthotics, Inc.

Despite our best efforts to replicate the human hand and arm, current prostheses fall far short of this goal. Current upper limb prostheses may best be categorized as assistive tools. These may serve the purpose of providing a more natural appearance and/or provide manipulation functions.

4. Montag 10.05.2010 | 15:00 - 16:30 | Saal 2 |  Symposium | Unterthema/Track: Amputation/Prothetik
[3243]

Virtual-Reality Training und Beurteilung Beinamputierter

Themenblock Vorsitz: **Gailey**, Robert , PhD, PT (US) | University of Miami Miller School of Medicine

Zusammenfassung: *The use of virtual reality (VR) and gaming systems during rehabilitation has increased dramatically in recent years as clinicians seek to improve outcomes beyond that obtained using conventional techniques. VR technologies allow the ability to provide controlled physical and cognitive challenges while simultaneously obtaining quantitative feedback on patient performance. Although such technologies show great promise for enhancing physical rehabilitation, and may present an opportunity to enhance prosthetics and orthotics care, data supporting their use in a clinical setting is limited. The presentation will provide an overview of recent developments within the field of virtual reality based rehabilitation, highlight ongoing efforts to improve care for individuals with lower extremity amputation and discuss potential implications for clinical care independent of such advanced technology.*

1 / 1 **Virtual-Reality Training und Beurteilung Beinamputierter**

Darter, Benjamin (US) | Center for the Intrepid- Brooke Army Medical Center
Wilken, Jason (US) | Center for the Intrepid- Brooke Army Medical Center
Ferguson, John (US) | Center for the Intrepid- Brooke Army Medical Center

5. Montag 10.05.2010 | 15:00 - 16:30 | Saal 3 | Themenblock | Unterthema/Track: Orthetik
[3670]

Orthetik - Knie und Arthrose

Themenblock Vorsitz: **Laube**, Wolfgang , PD Dr. med. sc. (AT) | Landeskrankenhaus Feldkirch / Rankweil

1 / 7 **Funktionalität und Nutzen einer Kniebandage beim Springen für einen Patienten fünf Jahre nach einer ACL-Ersatzplastik**

Research on orthoses in rehabilitation after knee surgery has shown inconsistent results. This study with 54 patients after ACL surgery demonstrated significant clinical benefits such as increased muscle force, power, and sports performance when wearing a knee soft orthosis.

Laube, Wolfgang (AT) | Landeskrankenhaus Feldkirch / Rankweil

2 / 7 **Bewertung der orthetischen Versorgung einer Kniegelenkarthrose durch Auflagedruckmessung und WOMAC-Index**

The peak plantar force during stance phase is significantly reduced by using lateral wedged insole with scaphoid pad. From the results of WOMACTM 3.1 Index of osteoarthritis(OA), knee pain of patients was reduced and their daily functions were improved by the orthotic treatment.

Wong, Kenneth Wai Hing (HK) | Hospital Authority, Hong Kong

3 / 7 **Biomechanische Wirksamkeit einer valgusinduzierenden Knieorthese zur Versorgung der Arthritis im Kniegelenk**

The presentation offers evidence of the biomechanical efficiency of a gonarthrosis orthosis with valgus effect on 16 patients. The orthosis compensates for approximately 9% of the external load resulting in pain reduction and an improved gait pattern.

Schmalz, Thomas (DE) | Otto Bock HealthCare GmbH

4 / 7 **Die Entlastung des arthrotischen Kniegelenkes mittels Unterschenkelorthese**

This paper introduces a novel orthosis concept in which relief for the knee joint can be provided in either the lateral or the medial compartment with the implementation of a special AFO. This provides an alternative treatment method for unicompartmental knee disorders with great patient compliance.

Drewitz, Heiko (DE) | Otto Bock HealthCare GmbH

5 / 7 **Belastung des Kniegelenkes bei einer KAFO**

This is the first report of knee joint loads in patients prescribed a KAFO. Peak loads were highest in the sagittal plane. Malalignment contributed to higher loads. All subjects demonstrated flexion moments at toe off. It is important to look at multiple factors when choosing orthotic components.

Bernhardt, Kathie (US) | Mayo Clinic

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| 6 / 7 | Beurteilung der Kurzzeitwirkung einer Valgusorthese auf Kniemomente, Schmerzen und physische Fähigkeiten bei Patienten mit medialer Osteoarthritis
<i>The knee orthosis GenuArthro is designed to apply a valgus moment to the knee joint and to re-distribute the intra-articular load of the knee. The results of a short term intervention indicate an increase in walking distance and speed; pain (WOMAC, stiffness and the adduction moments decreased.</i> | Brüggemann, Gert Peter (DE)
 Institut für Biomechanik und Orthopädie |
| 7 / 7 | Klinische Studie zu einer Entlastungsorthese zur Korrektur einer Varus-Fehlstellung mit osteoarthritischem Knie
<i>The study should show the effect of different kinds of treatment to a knee with osteoarthritis. There have been three groups (without treatment/knee soft support/unloading knee brace) and different clinical scores to evaluate the effect.</i> | Herold, Klaus (DE) medi GmbH & Co. KG |

6.
[3777]

Montag 10.05.2010 | 15:00 - 16:30 | Saal 4 | Symposium | Unterthema/Track: Amputation/Prothetik

Phantomschmerzen und Stumpfschmerzen mit freundlicher Unterstützung durch medi GmbH & Co. KG

Themenblock Vorsitz: Kern, Kai-Uwe, Dr. med. / MD (DE) | Schmerz - und Palliativzentrum Wiesbaden

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|-------|---|---|
| 1 / 5 | Epidemiologie von Phantomschmerzen und -wahrnehmungen in Deutschland
<i>Daten einer Befragung von 537 Amputierten mit Videobeispielen</i> | Kern, Kai-Uwe (DE) Schmerz - und Palliativzentrum Wiesbaden |
| 2 / 5 | Therapie von Phantomschmerz
<i>Aktuelle Datenlage, neue Konzepte und Ergebnisse einer bundesweiten Befragung</i> | Kern, Kai-Uwe (DE) Schmerz - und Palliativzentrum Wiesbaden |
| 3 / 5 | Stumpfschmerzen
<i>Epidemiologie, Ursachen und orthopädische/chirurgische Therapie</i> | Reichhalter, Robert (AT) Wilhelminenspital Wien |
| 4 / 5 | Prothetische Versorgung bei Phantom- und Stumpfschmerzen
<i>Grundprinzipien, Fallstricke und Perspektiven</i> | Bitter, Elmar (DE) Technische Orthopädie Auguste Viktoria Klinik |
| 5 / 5 | Bildgebung bei Phantomschmerzen
<i>Aktueller Stand der Forschung</i> | N.N. |

7.
[4087]

Montag 10.05.2010 | 15:00 - 16:30 | Saal 5 | Symposium

Special Seating Policy and Practice in Low Income Nations

8.
[3655]

Montag 10.05.2010 | 17:00 - 18:30 | Saal 1 | Themenblock | Unterthema/Track: Amputation/Prothetik

Armprothetik - Schaft / Prothesensteuerung

Themenblock Vorsitz: Miller, Laura, Dr. (US) | Rehabilitation Institute of Chicago

Themenblock Vorsitz: Egger, Hubert (AT) | Otto Bock HealthCare Products Ges.m.b.H, Wien

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| 1 / 7 | Gezielte Nervenregeneration - 30 Operationsergebnisse
<i>Targeted Muscle Reinnervation (TMR) is a surgical technique that creates myoelectric control signals in the residual limb of amputees using the remaining nerve and remnant musculature in the residual limb. Outcomes of 30 TMR patients will be presented.</i> | Miller, Laura (US) Rehabilitation Institute of Chicago |
| 2 / 7 | EMG-Sensor und Steuerungsdesign der multifunktionalen UNB-Handprothese
<i>A controller and EMG sensors are being developed to control a three axis hand that can perform six basic grip patterns. The modular system communicates via CAN bus using a standardised bus protocol. The main controller incorporates several control strategies including pattern classification of EMG.</i> | Wilson, Adam (CA) University of New Brunswick |
| 3 / 7 | Integration der Rückkopplung in den Regelkreis von prothetischen Hilfsmitteln
<i>The study addresses the TMR transradial/transhumeral amputation. The impression that the prosthesis is following the desired intent and providing correspondent feedback motivates the wearer during the training sessions and daily life, thereby increasing the acceptance rate.</i> | Ninu, Andrei (AT) Otto Bock Healthcare Products GmbH |

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| 4 / 7 | Mehrere Freiheitsgrade (MDOF) einer Armprothese werden gleichzeitig angesteuert - eine Fallstudie bei natürlicher Bewegung
<i>Current myoelectrical prostheses allow single control of the joints only. The aim of this work is to enable a new control. In a unique pan-European case study a 17 year old shoulder-ex-amputatee underwent surgery in order to achieve a novel prosthesis-control: "thought-controlled prosthesis".</i> | Egger, Hubert (AT) Otto Bock HealthCare Products Ges.m.b.H, Wien |
| 5 / 7 | Tendenz zu einem offenen Standard: das Kommunikations-Protokoll der UNB-Prothesen
<i>UNB has released a draft protocol to the Standardised Communication Interface for Prosthetics group in the hopes that it could further advance the initiative's goal of developing an open standard for the communication of prosthetic limb components. The benefits of its implementation are highlighted.</i> | Losier, Yves (CA) University of New Brunswick |
| 6 / 7 | Steuerung einer Prothesenhand mit zwei Freiheitsgraden mittels EMG-Mustererkennung
<i>A myoelectric pattern recognition based control scheme was modified to control a novel two degree of freedom (DOF) powered wrist design in conjunction with a conventional electric hand design and was successfully tested by a trans-radial amputee.</i> | Scheme, Erik (CA) University of New Brunswick |
| 7 / 7 | Multimodale Sensorsteuerung zur Orientierung einer myoelektrischen Prothesenhand mit 3 Freiheitsgraden
<i>The development of our multimodal sensor control for a 3 degrees-of-freedom hand is reported. An accelerometer is installed to compute the posture angles of the residual arm and drive the pronation joint and the wrist flexion joint. The experiments showed that it naturally reduces compensating shoul</i> | Ohnishi, Kengo (JP) Okayama Prefectural University |

9. Montag 10.05.2010 | 17:00 - 18:30 | Saal 2 | Symposium | Unterthema/Track: Amputation/Prothetik
[4001]

Rückfuß

Themenblock Vorsitz: **Greitemann, Bernhard**, Prof. Dr. med. Dipl. Oec. (DE) | Klinik Münsterland der Deutschen Rentenversicherung Westfalen

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| 1 / 4 | Rückfussamputationen beim Diabetiker und durchblutungsgestörten Patienten | Baumgartner, René (CH) |
| 2 / 4 | Rückfußamputationen - Tendomyoplastiken zur Stumpfbalance-Erhaltung
<i>To avoid varus-equinus deformity after original Chopart disarticulation additional surgical methods are recommended. Marquardt's tenomyoplastic Chopart disarticulation, however, avoids contracture, maintains full ROM of the ankle joint and allows for total weight bearing.</i> | Neff, Georg (DE) Oskar-Helene-Heim, Freie Universität Berlin |
| 3 / 4 | Sehnenoperationen zur Rückfußbalancierung | Roukis, Thomas S. (US) Madigan Army Medical Center |
| 4 / 4 | Möglichkeiten der prothetischen Versorgung nach Amputationen im Rückfußbereich | Schäfer, Michael (DE) Pohlig GmbH |

10. Montag 10.05.2010 | 17:00 - 18:30 | Saal 3 | Themenblock | Unterthema/Track: Orthetik
[3671]

Orthetik - Schlaganfall und zentrale Störungen

Themenblock Vorsitz: **Fatone, Stefania**, Dr (US) | Northwestern University

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| 1 / 6 | Randomisierte Cross-Over-Studie zu Knöchelkomponenten für AFOs eingesetzt bei Erwachsenen mit Hemiplegie nach einem Schlaganfall
<i>A randomized cross-over study comparing the effect of ankle components on the gait of 21 adults with post-stroke hemiplegia wearing 3 differently articulated polymer ankle foot orthoses (AFO).</i> | Fatone, Stefania (US) Northwestern University |
| 2 / 6 | Einfluß der Flexibilität einer AFO auf Bein- und Rumpfk kinematik bei Hemiplegikern nach einem Schlaganfall
<i>Investigation on the effect of the flexibility of an AFO on the kinematics of stroke hemiplegic gait using an experimental AFO with adjustable flexibility suggested that its effect on kinematics would depend on the individual, but be diminished toward the proximal joints and trunk in general.</i> | Kobayashi, Toshiki (HK) The Hong Kong Polytechnic University |

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| 3 / 6 | Behandlung des Fallfußes verbunden mit einem Genu Recurvatum
<i>When treating Patients with Stroke, CMT, Post Polio, we are involved with the results of nerve- and muscle failure such as Foot Drop, which we will recognize soon after the incident. On longer term we can be confronted with other problems resulting from the muscle weakness, such as Genu Recurvatum.</i> | Smits, Jan (NL) CAMP
Scandinavia |
| 4 / 6 | Auswirkung von AFOs auf Lebensqualität und psychologisches Befinden bei Versorgung von Schlaganfallpatienten - eine systematische Übersichtsarbeit
<i>This paper describes a review of the literature carried out to determine the effect of ankle-foot orthoses (AFOs) on quality of life (QoL) and psychological well-being for people with stroke and suggests avenues for further research in this area.</i> | McMonagle, Christine (UK)
University of Strathclyde |
| 5 / 6 | Pilotuntersuchung des leichtgängigen Bewegungsablaufs bei Hemiplegikern nach einem Schlaganfall mit oder ohne AFOs
<i>One goal of body movements may be to maximize smoothness. In people with post-stroke hemiplegia, an ankle-foot-orthosis (AFO) may partially restore movement smoothness. Center of mass and center of pressure movement smoothness during gait were evaluated in this population with and without an AFO.</i> | Zissimopoulos, Angelika (US)
Northwestern University |
| 6 / 6 | Polypropylen-AFOs für Patienten mit zentralen neurologischen Störungen - mechanische und funktionale Beurteilung
<i>We assessed the functional benefit and the mechanical contribution of AFOs prescribed to overcome drop foot gait in central neurological patients. The AFO was functionally beneficial in 4 out of 7 patients. This result could be explained by the mechanical contribution of the AFO.</i> | Bregman, Daan J.J. (NL) VU
University Medical Center |

11. Montag 10.05.2010 | 17:00 - 18:30 | Saal 4 | Themenblock | Unterthema/Track: Rehabilitation

[3684]

Rehabilitation - Lebensqualität

Themenblock Vorsitz: **Rommers, Gerardus M (Clemens) , MD, PhD (NL) |** University Medical Center Groningen, University of Groningen

Themenblock Vorsitz: **Burger, Helena (SI) |** Institute for Rehabilitation, Republic of Slovenia

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| 1 / 5 | Epidemiologie von Beinamputierten in den Niederlanden - ein Überblick von 25 Jahren seit Informations-Aufzeichnung
<i>In W-Europe about 80% of all lower limb amputations (LLA) are caused by vascular pathology. The majority of people is over 65 years of age. In de period 1982-2006 there are major changes in amputation level and age cohorts. There is a decrease in amputation incidence in the more elderly population.</i> | Rommers, Gerardus M (Clemens) (NL) University Medical Center Groningen, University of Groningen |
| 2 / 5 | Auswirkung unterschiedlicher Amputationshöhen auf die Lebensqualität von Amputierten aus dem Irak
<i>An Arabic version of WHOQoL-BREF was administered to four groups of limb amputees (n=179) to determine and compare the impact of different levels of amputation on amputees QoL. It is found that the QoL of amputee population is poor in Iraq, with the effect being greatest for AK and less for UL amput.</i> | Alobaidi, Alaa S. H. (IQ) College of Health and Medical Technology |
| 3 / 5 | Auswirkung einer Beinprothese bei alltäglichen Aktivitäten - eine systematische Übersichtsarbeit
<i>This systematic review determined the effectiveness of lower limb prosthesis in terms of activity, participation and quality of life in real-life contexts. From 818 references, nine studies were suitable for inclusion. Four studies reported significant improvements in the above-mentioned outcomes.</i> | Töytäri, Outi (FI) National Institute for Health and Welfare |
| 4 / 5 | Konsens bei wichtigen Ergebnissen und Prognosen bezüglich der Verordnung von Beinprothesen
<i>A 3-round Delphi study surveying experts in prosthetic prescription to identify the important outcomes of lower limb prosthetic prescription, important predictors of prescription and important items to consider when optimising prosthesis use to improve user satisfaction, usage rates and the service.</i> | Schaffalitzky, Elisabeth (IE) Dublin City University |
| 5 / 5 | Faktoren, die die Rückkehr an den Arbeitsplatz nach einer Amputation beeinflussen
<i>The aim of the study was to find out how many people after amputation return to work. A questionnaire was sent to all (400) patients visiting</i> | Burger, Helena (SI) Institute for Rehabilitation, Republic of Slovenia |


the outpatient clinic. We received 230 filled-in questionnaires. Ninety-three (40.4%, 80.9% of those working before amputation) worked after amputation.

12. Montag 10.05.2010 | 17:00 - 18:30 | Saal 5 | Themenblock | Unterthema/Track: Verschiedenes
[3682] **Freie Themen 1**

Themenblock Vorsitz: **Verschuren**, Jesse (NL) | UMCG Groningen

Themenblock Vorsitz: **Lineham**, Marion , MPP (NZ) | New Zealand Artificial Limb Board

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| 1 / 6 | Generelle Gelenk-Hypermobilität bei chinesischen Schulkindern zwischen 6 und 11 Jahren
<i>General joint hypermobility of 442 children aged 6 to 11 were examined using Beighton Score. The cut-off scores for each age group were defined as the nearest score at the 95% of the studied population. The general joint hypermobility of the studied group is age specific but not gender specific.</i> | Li , Nga Mei (HK) The Hong Kong Polytechnic University |
| 2 / 6 | Versorgung von Armamputierten in den Niederlanden
<i>Apart from a multidisciplinary checkup for upper limb amputees in one day the organisation of other activities where patients can meet fellow patients is of great importance. Meeting fellowpatients and the importance of this is presented.</i> | Poelma , Margriet (NL) Sint Maartenskliniek |
| 3 / 6 | Sexualität und Amputation - eine systematische Übersichtsarbeit
<i>The purpose of this literature review is to systematically examine the state of research on sexuality and limb amputees. Five publication databases were searched. Eleven eligible studies were found. All studies found an impact of the amputation on some part of sexual functioning to some degree.</i> | Verschuren , Jesse (NL) UMCG Groningen |
| 4 / 6 | Gesundheitsorientierte Lebensqualität für schwedische Kinder und Jugendliche mit kongenitalem Teilverlust der Extremitäten
<i>Health-related quality-of-life (HRQoL) was studied in 140 children and adolescents with limb reduction deficiency present at birth. The results show that, except for in the Social exclusion subscale, these children have a significantly higher HRQoL compared to children with other chronic conditions.</i> | Ylimäinen , Kari (SE) Örebro University Hospital |
| 5 / 6 | Momentane Meinungen der Krankenhausärzte und Einführung evidenzbasierter Praxis (EBP) in die Einrichtungen der Orthetik und Prothetik in Kanada
<i>Our current understanding of evidence based practices (EBP) in prosthetics and orthotics is limited due to a lack of studies. This abstract outlines the important initial first step in this process, namely the development of a survey tool designed to collect data about EBP.</i> | Christensen , James (CA) George Brown College |
| 6 / 6 | Organisatorische Parameter für einen prothetischen Service - Rahmenprogramm und Leistungskennzahl (Key Performance Indicators - KPI)
<i>The New Zealand Artificial Limb Board, caring for 4,300 amputees, now measures these outcomes: mobility, independence, health related quality of life, and employability. High level key performance indicators were introduced. This paper describes the methodology, and results. The project has been successful clinically and organisationally.</i> | Lineham , Marion (NZ) New Zealand Artificial Limb Board |

13. Dienstag 11.05.2010 | 08:00 - 09:15 | Saal 1 |  Basic Instructional Course | Unterthema/Track: Rehabilitation
[3599] **Rehabilitation Amputierter I**

Themenblock Vorsitz: **Greitemann**, Bernhard , Prof. Dr. med. Dipl. Oec. (DE) | Klinik Münsterland der Deutschen Rentenversicherung Westfalen

Zusammenfassung: *Rehabilitation of amputees is a real challenge. A multidisciplinary approach in an interdisciplinary working team is the base to overcome impairments and to reduce disabilities. The use of the ICF is of basic importance. The instructional courses gives an overview of the possibilities of rehabilitation in these patients.*

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| 1 / 4 | Rehabilitation amputierter Patienten, ICF-System, Rehabilitation in Frankreich | Menager , Domenico (FR) Rehazentrum Valonton |
| 2 / 4 | Rehabilitation amputierter Patienten in Deutschland | Greitemann , Bernhard (DE) Klinik Münsterland der Deutschen Rentenversicherung Westfalen |

3 / 4	Die Rolle der Psychologie während der Rehabilitation von Amputierten	Panning , Stephan (DE) Klinik Münsterland
4 / 4	Rehabilitationsprobleme hervorgerufen durch Stumpfprobleme	Brückner , Lutz (DE) Moritz-Klinik Gmbh & Co. KG

14. [3713] Dienstag 11.05.2010 | 08:00 - 09:15 | Saal 2 | Advanced Instructional Course | Unterthema/Track: Rückenprobleme

Deformität der Wirbelsäule

Themenblock Vorsitz: **Wong**, Man-Sang , PhD (HK) | The Hong Kong Polytechnic University

Themenblock Vorsitz: **Landauer**, Franz , Dr. (AT) | Universitätsklinik für Orthopädie Paracelsus Medizinische Privatuniversität

1 / 5	Epidemiologie und Screening-Programme <i>This advanced ICL presents the current knowledge and research outcome on Epidemiology for Idiopathic Scoliosis (IS) and a recent consensus report on School Screening for Scoliosis (SSS) programs. The objectives of the latter are numerous. The evolving role and aim of SSS and the recommendations for improvement of the procedure are highlighted.</i>	Grivas , Theodoros B (GR) "Tzanio" General Hospital of Piraeus, Piraeus, Greece
2 / 5	Konservative Behandlung <i>Historically the treatment options for Adolescent Idiopathic Scoliosis (AIS), the most common form of scoliosis are; exercises; braces and surgery. Methods and modules of rehabilitation are described in more detail within this review.</i>	Weiss , Hans-Rudolf (DE) Praxis Dr. med. Weiß
3 / 5	Das RSCBrace - nicht nur ein Korsett, sondern ein komplettes Versorgungssystem <i>The application of the Chêneau principles shows in practice that the scope of interpretation is very varied. The result: under the name of Chêneau, orthoses for scoliosis are produced that are inconsistent with the ideas and biomechanical construction principles of the inventor.</i>	Schildhauer , Stephan (DE) Orthopädietechnik Paul Schulze GmbH
4 / 5	Spezielle Skolioseklassifikation in Verbindung mit Orthesenversorgung - Beschreibung und Zuverlässigkeit <i>The purpose of the study: to show the intra- and inter observer reliability of a curve classification system correlating with scoliosis brace treatment</i>	Wood , Grant I. (US) Hanger Orthopedic Group
5 / 5	Indikation zur Operation bei idiopathischer Skoliose <i>Indication for operative treatment of idiopathic scoliosis in adolescent is a Cobbangle of more than 45°, a progression under nonoperative therapy in adolescent or juvenile scoliosis, or a Cobbangle over 50° to 60° in mature adolescent.</i>	Bullmann , Viola (DE) Universitätsklinikum Münster

15. [3264] Dienstag 11.05.2010 | 08:00 - 09:15 | Saal 3 | Advanced Instructional Course | Unterthema/Track: Amputation/Prothetik

Fallstudie zum bilateralen Verlust der oberen Extremität - Team-Ansatz zur ATL-Unabhängigkeit und Targeted Muscle Reinnervation (TMR)

Themenblock Vorsitz: **Swanson**, Shawn , OTR/L (US) | Advanced Arm Dynamics

Zusammenfassung: *This presentation will document a case study of a bilateral upper limb loss individual in the early stages of his rehabilitation process. The individual lost his arms in an electrical accident in October 2008. His levels of amputation are right transhumeral and left shoulder disarticulation. This individual also received Targeted Muscle Reinnervation (TMR) surgery on his left side in March of 2009. Occupational therapy intervention for ADL independence, socket design/prosthetic componentry, and the subsequent prosthetic training will be discussed as well as the important nature of the team. There will be an in depth look at the various adaptive equipment and home modifications the patient is utilizing for increased independence with daily tasks for self care and around his home.*

1 / 1	Fallstudie zum bilateralen Verlust der oberen Extremität: Team-Ansatz zur ATL-Unabhängigkeit und Targeted Muscle Reinnervation (TMR) <i>This presentation will document a case study of a bilateral upper limb loss individual in the early stages of his rehabilitation process. This level of amputee poses a challenge to the rehabilitation team. Their needs are extreme and it demands creativity. To compound this fact, this patient received the Targeted Muscle Reinnervation procedure.</i>	Swanson , Shawn (US) Advanced Arm Dynamics OSteen , Brooke (US) St. Joseph Hospital Prigge , Patrick (US) Advanced Arm Dynamics
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16.
[3690]

Dienstag 11.05.2010 | 08:00 - 09:15 | Saal 4 | Basic Instructional Course | Unterthema/Track: Rehabilitation

Gemeindenaher Rehabilitation (CBR) und die orthopädiotechnische Leistungserbringung

Themenblock Vorsitz: Khasnabis, Chapal (CH) | World Health Organization

1 / 4	Herausforderungen für orthopädiotechnische Leistungserbringer in Entwicklungsländern - philippinische Fallstudie	Bundoc , Josephine (PH) Physicians for Peace
2 / 4	Gemeindenaher Rehabilitation (CBR) und orthopädiotechnische Leistungserbringer arbeiten zusammen - Fallstudie aus Nepal	Sen , Ajay (NP) Handicap International - Nepal
3 / 4	Mitarbeiter der gemeindenahen Rehabilitation (CBR) für die orthopädiotechnische Nachuntersuchung <i>Training of Community Based Rehabilitation (CBR) staff is a strong requirement when looking at the competencies needed to follow up with home beneficiaries of Prosthetics and Orthotics (P&O) devices so that they can eventually integrate themselves into the community. The International Society of Prosthetics and Orthotics (ISPO) is actively collecting information on good practices to ensure that these trainings are easier to access and to disseminate on a broader scale in developing countries.</i>	Ung , Claudie (KH) Task Officer ISPO
4 / 4	Mehrländerstudie zu Verlaufskontroll-Systemen von orthopädiotechnischen Leistungserbringern in Entwicklungsländern <i>Providing quality standard prosthetics and orthotics service in a developing country is a challenge in itself with the huge amount of victims after war or civil unrest resulting from war ordnance (amputations), breakdown of vaccination programs (polio) and lack of midwives (cerebral palsy).</i>	Jensen , Steen (DK) ISPO International

17.
[3944]

Dienstag 11.05.2010 | 08:00 - 09:15 | Saal 5 | Basic Instructional Course | Unterthema/Track: Rehabilitation

Einführung in die Rollstuhlbewertung und -anpassung

Themenblock Vorsitz: Constantine, David (GB) | Motivation

1 / 1	Einführung in die Rollstuhlbewertung und -anpassung <i>The workshop will demonstrate an assessment and fitting sequence outlined in two forms, and attendees will practice key techniques in the assessment and fitting process and subsequent adjustment of a range of available products. Attendees will have full access to all materials and documents used in the workshop.</i>	Rushman , Chris (GB) Motivation Charitable Trust UK Frost , Sarah (GB) Motivation
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18.
[3783]

Dienstag 11.05.2010 | 09:30 - 10:00 | Saal 1 | Keynote-Vortrag

Amputation von Gliedmaßen und Prothetik

Keynote Redner: **Wetz**, Hans-Henning , Prof. Dr. (DE) | Klinik und Poliklinik für TO und Rehabilitation

Zusammenfassung: *Die partielle oder vollständige Amputation der oberen oder unteren Gliedmaßen beeinträchtigt den Patienten stets physisch und psychisch. Die Qualität des chirurgischen Eingriffs und die Belastungsfähigkeit des Patienten schaffen die Grundlage für eine erfolgreiche Rehabilitation. Das spätere soziale Leben des Amputierten hängt von diesen Faktoren ab, und ob die Rehabilitation erfolgreich verläuft, entscheidet sich schon im OP. Dieser Vortrag konzentriert sich auf die Schnittstellen zwischen dem persönlichen Anspruch des Patienten, dem sozialen Umfeld und der Qualifizierung des Chirurgen im Hinblick auf die Entscheidungsgrundlagen für Stumpflänge und -funktion sowie die spätere Form und beste Passform des Schafts. Das Problem wird auch sichtbar anhand der großen und zunehmenden Zahl an Patienten, die sich gezwungenermaßen Eingriffen zur Stumpfverbesserung und Wiederherstellung unterziehen müssen. Die Prothesentechnik entwickelt sich rasant und stellt somit für alle Beteiligten im Reha-Team sowie insbesondere*

19.
[3798]

Dienstag 11.05.2010 | 10:30 - 12:00 | Saal 1 | Symposium | Unterthema/Track: Orthetik

Innovative Technologien für angetriebene Armorthesen

Themenblock Vorsitz: **Rupp**, Rüdiger , Dr.-Ing. (DE) | Stiftung Orthopädische Universitätsklinik Heidelberg

Themenblock Vorsitz: **Pylatiuk**, Christian , Dr. med. (DE) | Karlsruher Institut für Technologie

1 / 5	Interaktives Robotiksystem für die obere Extremität für die Rehabilitation nach Schlaganfall	Tong , Raymond Kaiyu (HK) The Hong Kong Polytechnic University
2 / 5	Funktionales Bewegungstraining mit dem Rehabilitationsroboterarm ARMin <i>Robot-assisted therapy has become a common tool in neurorehabilitation. To enhance the transfer from therapy to daily life a system for the training of functional arm movements was developed and evaluated.</i>	Guidali , Marco (CH) ETH Zürich, Institute of Robotics and Intelligent Systems (IRIS)
3 / 5	Jüngste Fortschritte bei funktionalen elektrischen Stimulationstechnologien für die obere Extremität <i>This symposium will focus on the use of functional electrical stimulation as a tool to support the delivery of task-specific, voluntary-initiated upper limb therapy after stroke. A brief review of the evidence underpinning this approach will be followed by an overview of the technical challenges in delivering such an approach in clinical practice.</i>	Kenney , Laurence (GB) University of Salford, Brian Blatchford building
4 / 5	Entwicklung, Untersuchung und klinische Anwendungen eines Hybridsystems für die Rehabilitation der oberen Extremität bei Tetraplegikern	Cliquet Jr. , Alberto (BR) Faculty of Medical Sciences, Universidade de Campinas-UNICAMP, Universidade de SãoPaulo-USP
5 / 5	Designentwicklung und -beurteilung einer mobilen Armunterstützung für Menschen mit Muskelschwäche <i>For people with muscular diseases, a spring balanced arm support was developed. Based on home visits, design criteria were set up for essential activities of daily living. Three generations of prototypes were created, the first to demonstrate the principle of single point support, the second to perform clinical testing, and the third as a product. Over a hundred units are produced so far. Clinical evaluation based on IPPA and Dquest showed that the device is considered as very useful.</i>	Herder , Just (NL) Delft University of Technology

20. Dienstag 11.05.2010 | 10:30 - 12:00 | Saal 2 |  Symposium | Unterthema/Track: Amputation/Prothetik
[3870]

Amputationen der unteren Extremität und Stumpfverbesserung

Themenblock Vorsitz: **Wetz**, Hans-Henning, Prof. Dr. (DE) | Klinik und Poliklinik für TO und Rehabilitation

1 / 4	Unterschenkelamputationen <i>Transfemoral amputation (TTA) is the most proximal level at which near-normal function can be restored prosthetically due to retention of the knee joint. Basic principles of surgical technique are described as well as variations in technique related to etiology and the extent of tissue trauma or disease.</i>	Bowker , John H. (US) Miller School of Medicine, University of Miami
2 / 4	Exartikulation im Kniegelenk und transgenikuläre Amputationen <i>Knee disarticulation and through-knee amputations are classic levels of amputations, but relatively little used compared to transfemoral and transfemoral amputations. But runners with knee disarticulations are winning the Gold Medals in the category of transfemoral amputees, which proves its superior performance.</i>	Baumgartner , René (CH)
3 / 4	Oberschenkelamputation aus amputationschirurgischer Sicht	Baumgartner , René (CH)
4 / 4	Stumpfverbessernde Maßnahmen	Wetz , Hans-Henning (DE) Klinik und Poliklinik für TO und Rehabilitation

21. Dienstag 11.05.2010 | 10:30 - 12:00 | Saal 3 | Themenblock | Unterthema/Track: Amputation/Prothetik
[3656]

Armprothetik - funktionale Passteile 1

Themenblock Vorsitz: **Kyberd**, Peter, Dr. (CA) | University of New Brunswick

Themenblock Vorsitz: **Bertels**, Thomas, Dipl.-Ing. (FH) (DE) | Otto Bock HealthCare GmbH

1 / 7	Entwicklung einer multifunktionalen myoelektrischen Hand <i>This paper presents a myoelectric hand controlled by two EMG sensors. The developed prosthetic hand can grasp many type of object with the 5-independent fingers, possible to play a game or express intension with the five different hand gestures</i>	Heo , Yoon (KR) Korea Orthopedics & Rehabilitation Engineering Center
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2 / 7	Beurteilung der Funktionalität von Prothesenhänden mittels der Southampton-Hand <i>The Southampton Hand Assessment Procedure (SHAP) was used to measure the relative performance of a range of commercial prosthetic hands. As the test aims to measure the functional capability of the subject, a single subject was used for repeated measures and to remove the inter-subject variability.</i>	Kyberd, Peter (CA) University of New Brunswick
3 / 7	Nutzenanalyse der MDOF (multi degree of freedom) -Prothesenhand "Michelangelo" - erste Fallstudie <i>A case study shows that the Michelangelo hand system clearly brings advantages. In comparison to a hand system with a current state of technology, the user can successfully master a significant amount of additional tasks of daily living.</i>	Kalmar, Janos (AT) Otto Bock Healthcare Products GmbH
4 / 7	Mechanisches Design der multifunktionalen UNB-Hand <i>In order to create a hand which can perform the 6 basic grip forms it was determined that 3-axis of motion are required. The index finger and thumb are individually actuated. The other fingers are linked via a differential mechanism so they can conformally grasp the detailed shape of the object.</i>	Clawson, Adam (CA) University of New Brunswick
5 / 7	i-LIMB Hand - Welche Folgen wird eine stärkere Zusammenarbeit nach sich ziehen? <i>The interaction and partnership of the team approach with the therapist, prosthetist and manufacturer, will be reinforced in this presentation. Since the i-LIMB Hand was developed, team members have worked together to explore its unique features and a solid workingpartnership has been the result.</i>	Atkins, Diane (US) Touch Bionics
6 / 7	Ergebnisse der myoelektrisch gesteuerten ProDigits Fingerprothesen bei Teilamputationen der Hand <i>Creation of detailed patient evaluations, test socket design, signal site testing, dynamic and final fittings, covering options and pre and post occupational therapy training to provide powered prostheses to individuals with partial hand loss will be provided.</i>	Lindborg, Karl (US) Touch Bionics
7 / 7	Physiologische Vorteile einer Prothese mit Flexion im Handgelenk <i>During active use, patients attempt to overcome limitations in range of motion with non-physiological compensating movements. This study of forearm patients shows that changes in the flexion angle of a prosthetic wrist joint significantly reduce compensating movements of the arm and torso.</i>	Bertels, Thomas (DE) Otto Bock HealthCare GmbH

22.
[3765]

Dienstag 11.05.2010 | 10:30 - 12:00 | Saal 4 | Symposium | Unterthema/Track: Ausbildung

Vom Lehrling/Student zum professionellen Orthopädietechniker - Prüfen und Entwickeln professioneller Fähigkeiten

Themenblock Vorsitz: **Sexton, Sandra (UK)** | University of Strathclyde

Zusammenfassung: A variety of models exist for clinical assessment of student orthopaedic technologists and prosthetists/orthotists. When included in courses, the final clinical examination can be either be based on specific patient presentations or can be a multi-station examination. Graduates of these programmes must then continue their professional development and often attend short courses to develop specific competencies about special techniques or patient conditions. This symposium will present different models of final clinical examination in depth for prosthetics and/or orthotics including: • examination of students presenting single patient cases • examination of student competencies using a 6 station simulation model • examination of student competencies using a multi-station simulation model • examination of student competencies using the orthopaedic assessment model Further to this, it is generally accepted that graduates need early career support following graduation.

1 / 6	Globale Betrachtung verschiedener Kompetenzbeurteilungs- und Entwicklungs-Modelle <i>An introduction to the symposium.</i>	Sexton, Sandra (UK) University of Strathclyde
2 / 6	Prüfung von Studenten bei der Präsentation einzelner Patientenfälle	Kheng, Sisary (KH) Cambodia Trust
3 / 6	Prüfung der Fähigkeiten von Studenten mit einem 6-Stationen-Simulations-Modell <i>At the National Centre for Prosthetics and Orthotics within the University of Strathclyde, Glasgow, Scotland the undergraduate programme is four years full time. The students have clinical exposure within the department followed by two clinical placement exposures, one in Prosthetics and one in Orthotics.</i>	Figgins, Elaine (UK) University of Strathclyde

4 / 6	Prüfung der Fähigkeiten von Studenten mit einem Multi-Stationen-Simulations-Modell	Malas, Bryan (US) Moira Tobin Wickes Orthotics Program, Childrens Memorial Hospital
5 / 6	Prüfung der Fähigkeiten von Studenten mit dem orthopädischen Beurteilungsmodus <i>A comprehensive review of developments in Orthopaedic Structured Clinical Examination in the last year is presented. The relevance of applying modified OSCE techniques to the assessment of prosthetist/orthotist clinical skills will be discussed.</i>	Sexton, Sandra (UK) University of Strathclyde
6 / 6	Erhalten und Entwickeln von Mitarbeiter-Kompetenzen <i>Graduates of P&O study programmes must continue their professional development. Continuing professional development seems to be an effective way how to maintain general competency and develop specialist competencies.</i>	Rosicky, Jiri (CZ) ING corporation, spol. s.r.o

23. Dienstag 11.05.2010 | 10:30 - 12:00 | Saal 5 | Themenblock | Unterthema/Track: Rehabilitation


[3688]

Rehabilitation - Beinamputation

Themenblock Vorsitz: **Gailey, Robert**, PhD, PT (US) | University of Miami Miller School of Medicine

Themenblock Vorsitz: **Carroll, Kevin**, MS, CP, FAAOP (US) | Hanger P&O

1 / 6	Wirksamkeit eines evidenzbasierten Rehabilitationsprogrammes für Amputierte <i>This randomized control trial was designed to determine whether an evidence-based amputee rehabilitation program could improve the functional mobility of transtibial amputees. The 6-minute walk test and Amputee Mobility Predictor detected significant improvements over 8 weeks.</i>	Gailey, Robert (US) University of Miami Miller School of Medicine
2 / 6	Leitfaden für ältere Hüftexartikulations-Patienten mit unterschiedlichem Fitnesszustand - eingeschränktes, aber erfolgreiches Gehen im Außenbereich mit einer Prothese <i>Older HD amputees in good physical condition and a low prevalence of co-morbidities were able to successfully walk with prosthesis in a community setting. It is suggested a physical fitness of around 60%VO2max is necessary for older HD amputees to successfully walk.</i>	Chin, Takaaki (JP) Hyogo Rehabilitation Center
3 / 6	Einfachblinde Cross-Over-Studie zum Hüftabduktur-Training zur Verbesserung des Gangbildes und Gleichgewichtes bei unilateral transfemoral Amputierten <i>Patients with unilateral, above-knee amputation (AKA) underwent hip abductor strength training or arm ergometry. During the experimental phase, patients demonstrated a 4.9s reduction in TUG score and a 7.2m increase in 2MW distance, as compared to only 1.0s and 2.2m during the control phase.</i>	Pauley, Tim (CA) West Park Healthcare Centre, and Toronto Central Community Care Access Centre
4 / 6	Gehschulung beim Anpassen der Prothese - die Notwendigkeit eines entsprechenden Gangbildes, um die Prothesen-Komponenten richtig zu verwenden <i>Ten transfemoral amputees were fitted with MPK, additional to the prosthetists fitting procedures they also offered prosthetic gait training. The intention was to help the user to take advantage of their prosthetic component. They all developed a better gait and 9 of ten also developed stair decent.</i>	Möller, Saffran (SE) Össur
5 / 6	Prothetische Verordnung im klinischen Alltag - eine Pilotstudie in den Niederlanden <i>In a pilot study the usability of a prescription protocol for lower limb amputees was tested in clinical practice. Central feature was the match of aimed mobility level and specific prosthetic components. A match was realized in 80%.The protocol seems suitable for use in clinical practice.</i>	van der Linde, Harmen (NL) University Hospital Nijmegen, the Netherlands
6 / 6	Herausragende Ergebnisse für bilateral transfemoral Amputierte - schrittweises Vorgehen zum prothetischen Erfolg <i>This multi-media presentation will focus on how Prosthetists can use the graduated approach to prosthetic management of bilateral transfemoral amputees. 1, 2 This approach includes four phases: 1. Building confidence 2. Walking on short legs (shorties) 3. Graduated increase in</i>	Carroll, Kevin (US) Hanger P&O

24. Dienstag 11.05.2010 | 14:00 - 14:30 | Saal 1 |  Keynote-Vortrag
[3784]

Die Ausbildung von Orthopädietechnikern (CPOs) und Orthopädienschuhtechnikern aus der Perspektive der ISPO

Keynote Redner: **Sexton**, Sandra (UK) | University of Strathclyde

Zusammenfassung: Die Berufsausbildung für Orthopädietechniker und Orthopädienschuhtechniker wird kontinuierlich weiterentwickelt. Für beide Tätigkeitsfelder ist es unerlässlich, Wissen, Fertigkeiten sowie ein Verständnis der jeweiligen Aufgaben zu erwerben, und zwar sowohl durch theoretische Studien als auch durch praktische klinische und technische Erfahrungen. Die Schaffung hochwertiger Ausbildungsprogramme für diese Berufsfelder in wirtschaftlich schwierigen Zeiten ist mit besonderen Herausforderungen verbunden, insbesondere wenn es darum geht, in den Bereichen Technik und Gesundheit genügend Inhalte anzubieten, damit die Absolventen in der Praxis kompetent und sicher arbeiten können. Dieser Vortrag befasst sich sowohl mit den globalen Trends in der Berufsausbildung als auch mit möglichen zukünftigen Entwicklungen aus Sicht der Internationalen Gesellschaft für Prothetik und Orthetik (ISPO).

25. Dienstag 11.05.2010 | 15:00 - 16:30 | Saal 2 | Themenblock | Unterthema/Track: Orthetik
[3672]

Orthetik - obere Extremität

Themenblock Vorsitz: **Ott**, Wolfgang , Dr. (AT) | Rehabilitationszentrum Bad Häring

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| 1 / 7 | Auswirkung von Neopren-Schulterbandagen auf die Reposition des Gelenks bei Männern mit instabilen Schultern
<i>In this study we examined the effect of neoprene shoulder supports on passive joint reposition sense in subjects with stable and unstable shoulders.</i> | Hassan Beygi , Babak (IR) University of social welfare and rehabilitation |
| 2 / 7 | Modell zur kinematischen Messung an der Schulterorthese
<i>Modeling an impaired shoulder is complicated by the used of an orthosis. The purpose of this study is to develop a kinematic model of the upper arm. The model is based on reducing error from soft tissue motion by adding extra skin markers and using functional axes of rotation and optimization.</i> | Begon , Mickael (CA) University of Montreal |
| 3 / 7 | Upright MRI Untersuchungen der Schulter zeigen Dynamik im Labrum
<i>To examine glenoid labrum dynamics, the shoulders of 15 healthy subjects were imaged in standing position at different degrees of external rotation wearing the Omo Immobil Rotation orthosis and by using the UprightTM MRI. The functional length of the anterior labrum was measured.</i> | Michael , Joern W.-P. (DE) Universitätsklinikum Köln |
| 4 / 7 | Handschuh mit externem Sehnenbetrieb aktiviert durch die Kaumuskulatur
<i>An active prehension orthosis, called exotendon glove, which is made of flexible material only has been developed for people suffering cervical injury to complement their finger function. This exotendon glove system has a unique interface to operate fingers through activation of mastication muscle.</i> | Moromugi , Shunji (JP) Nagasaki University |
| 5 / 7 | Die Schulterorthese OmoNeurexa[®] zur Prävention und Therapie der schmerzhaften Schulter von hochparetischen Patienten in der Frührehabilitation: erste
<i>Zusammenfassend gibt die Schulterorthese (SO) den Patienten eine Sicherung des paretischen Armes im Stand und während des Gehens. Bei 3 von 5 Patienten war nach Interventionsende der Subluxationsspalt geschlossen. Zusätzlich bot die SO eine gute Passform und Tragekomfort.</i> | Werner , Cordula (DE) Charité Universitätsmedizin Berlin, Medical Park Berlin |
| 6 / 7 | Hilfsmittel für verletzte Hände
<i>We'll show some aids for injured hands, which makes life for disabled of the hands easier and more comfortable.</i> | Ott , Wolfgang (AT) Rehabilitationszentrum Bad Häring |
| 7 / 7 | Akzeptanz und Ergebnisse der dynamischen Handgelenkorthese aus elastomeren Material für pädiatrische Patienten
<i>Dynamic Movement Orthosis (DMO) has been used in a team oriented cp clinic. A retrospective chart review was conducted to complete a quality audit and to document trends in DMO WHO use, including wearer profile, treatment plan, follow up schedule, and outcomes.</i> | James , Wynne (US) Boston Brace |

26. Dienstag 11.05.2010 | 15:00 - 16:30 | Saal 1 | Themenblock | Unterthema/Track: Amputation/Prothetik
[3658]

Armprothetik - Schaft

Themenblock Vorsitz: **Kistenberg**, Robert , MPH, CP, LP, FAAOP (US) | Georgia Institute of Technology

Themenblock Vorsitz: **Jönsson**, Stewe (SE) | Sahlgrenska University Hospital

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| 1 / 7 | Osseointegration bei Armamputierten - prothetische Versorgung und Ergebnis
<i>The aim of this presentation is to illustrate the prosthetic procedure, prosthetic constructions and outcomes for all actual levels on upper limb.</i> | Jönsson , Stewe (SE) Sahlgrenska University Hospital |
| 2 / 7 | Begrenzungen des Schaftsupports bei Armprothesen
<i>This study measured the effect of position and load on pressures at the socket/skin interface of three transradial, three transhumeral and three shoulder amputees (n=9). These pressure measurements provide a clinically useful picture of force magnitude and distribution in the socket.</i> | Daly , Wayne (US) OrthoCare Innovations, LLC |
| 3 / 7 | Einsatz von MRT, Segmentation und Finite-Elemente-Methode (FEM) zur Automatisierung und Optimierung der Prothesenschaft-Herstellung
<i>MRI scans of lower extremity RLs were segmented into their component tissue parts, optimized for finite element analysis, rectified and then utilized for prosthetic socket fabrication. Prostheses were tested in successive iterations to optimize the models and test our tissue property assumptions.</i> | Kistenberg , Robert (US) Georgia Institute of Technology |
| 4 / 7 | Schaftloses prothetisches System - Anwendungen für die obere Extremität
<i>We introduce a new Prosthetic system that utilizes modified silicone liners acting as soft sockets, thus eliminating the traditional use of hard sockets in prosthetics. It mimics, to a certain extent, the benefits of Osseointegration techniques but does not require surgery.</i> | Salam , Youssef (LB) Orthocare International |
| 5 / 7 | Individuelle Anpassungen mit HTV-Silikonschäften bei Prothesen für die obere Extremität
<i>This presentation describes the advantages of silicone sockets for upper limb prostheses in terms of comfort and adhesion. The application options and practical fitting benefits of this innovative concept are illustrated using real-life examples.</i> | Andres , Erik (DE) Otto Bock HealthCare GmbH |
| 6 / 7 | Alter bei der ersten prothetischen Versorgung und späteres funktionales Ergebnis bei Kindern und Jugendlichen mit kongenitalem Unterarmverlust
<i>Age at first fitting in children with an unilateral congenital transversal below-elbow deficiency was not associated with satisfaction with the prosthesis, functional use or motor skills. Early prosthetic fitting seems to have a limited impact on prosthesis use during later stages of life.</i> | van der Sluis , Corry (NL) University Medical Center Groningen |
| 7 / 7 | Kongenitaler Gliedmaßenverlust - Epidemiologie und Versorgung
<i>Congenital Limb Deficiencies (CLD) is a challenge in rehabilitation. Despite the introduction of screening ultra sound in pregnancy, certain populations refuse an abortion even if a severe fetal defect is diagnosed. We present 112 cases followed in our special clinic for CLD.</i> | Siev-Ner , Ytzhak (IL) Sheba Medical Center |

27.
[3501]

Dienstag 11.05.2010 | 15:00 - 16:30 | Saal 3 | Symposium | Unterthema/Track: Amputation/Prothetik

Zielparameter in der Armprothetik

Themenblock Vorsitz: **Hill**, Wendy (CA) | Institute of Biomedical Engineering University of New Brunswick

Themenblock Vorsitz: **Swanson**, Shawn, OTR/L (US) | Advanced Arm Dynamics

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| 1 / 5 | Beurteilung der Arbeitsergebnisse von ULPOM (Upper Limb Prosthetic Outcome Measures) | Hill , Wendy (CA) Institute of Biomedical Engineering University of New Brunswick |
| 2 / 5 | Zusammenfassung der SSC (Systemische Sklerose) Befunde | Swanson , Shawn (US) Advanced Arm Dynamics |
| 3 / 5 | Perspektiven des Ergotherapeuten unter Berücksichtigung von Zielparametern | Norling Hermansson , Liselotte M (SE) Örebro county council |
| 4 / 5 | Perspektiven des Ingenieurs | Stavdahl , Øyvind (NO) Norwegian University of Science and Technology |
| 5 / 5 | Perspektiven des Orthopädietechnikers | Miller , Laura (US) Rehabilitation Institute of Chicago |

28.
[3485]

Dienstag 11.05.2010 | 15:00 - 16:30 | Saal 4 |  Symposium | Unterthema/Track: Verschiedenes

Psychosoziale Themen zur Amputation und prothetischen Rehabilitation

Themenblock Vorsitz: **Gallagher**, Pamela , PhD (IE) | Dublin City University

Themenblock Vorsitz: **Desmond**, Deirdre , Dr. (IE) | National University of Ireland Maynooth

Zusammenfassung: *Psychological factors predict adjustment to amputation. Understanding of the psychological and social realities of limb loss and prosthetic use can contribute to a holistic rehabilitation and limb-fitting experience and the optimization of ongoing care. This symposium will present current research in the psychology of amputation and prosthesis use and will highlight future directions for research in this domain.*

1 / 5	Untersuchung von Kundenpräferenzen – Kinder und Jugendliche berichten über ihre Prothesen	Donovan-Hall , Margaret (UK) University of Southampton
2 / 5	Anpassung an Amputation und Körperbild	Gallagher , Pamela (IE) Dublin City University
3 / 5	Geschlecht, Sexualität und Protheseneinsatz – Folgen der Rehabilitation	Murray , Craig (UK) Lancaster University
4 / 5	Frühes Selbst-Versorgungs-Training kann die Ergebnisse bei Menschen mit Beinverlust verbessern <i>A community-based, randomized, controlled clinical trial of the effectiveness of a self-management program specifically designed for persons with major limb loss. Subgroup analyses indicated the impact of the intervention was greater for participants who were < 3 years post amputation.</i>	Wegener , Stephen (US) Johns Hopkins University
5 / 5	Lebensqualität von Beinamputierten während der Rehabilitation und nach 3 Monaten <i>Quality of life of persons with lower limb amputation admitted for inpatient rehabilitation was assessed at admission, discharge and at 3 month follow-up. Results indicated that generic and specific quality of life of persons with lower limb amputation was high and remained relatively stable during inpatient rehabilitation and 3 months after discharge.</i>	Zidarov , Diana (CA) Montreal Rehabilitation Institute

29.
[3685]

Dienstag 11.05.2010 | 15:00 - 16:30 | Saal 5 |  Symposium | Unterthema/Track: Verschiedenes

Übereinkommen über die Rechte von Menschen mit Behinderungen und Mobilitätshilfen

Themenblock Vorsitz: **Khasnabis**, Chapal (CH) | World Health Organization

Themenblock Vorsitz: **Heim**, Sepp (DE)

Zusammenfassung: *The Convention on the Rights of Persons with Disabilities and its Optional Protocol was adopted on 13 December 2006 and entered into force on May 3, 2008. The Convention further strengthens the United Nations Standard Rules on the Equalization of Opportunities for Persons with Disabilities, adopted in 1993. Both Standard rules (article 3 and 4) and Convention (article 20 and 26) highlighted the importance of assistive/mobility devices. The Convention has further stated that people with disabilities have rights to access mobility devices and States are to facilitate this. However in most part of the world, there is very limited access to mobility devices. A greater impetus need to be given to ensure that Article 20 on Personal Mobility and Article 26 on Habilitation and Rehabilitation get operationalised. Convention is bringing new opportunities and at the same time challenges for the entire rehabilitation profession- Prosthetics/Orthotics and wheelchairs in particular. The Convention especially articles*

1 / 4	Übereinkommen über die Rechte von Menschen mit Behinderungen - Artikel 20 und 26 <i>The UN Convention on the Rights of Persons with Disabilities signified a watershed for disabled people worldwide. For those with mobility disabilities Articles 20 and 26 have significant relevance as they at last recognise that people require the correct equipment that brings independence and engagement to enable access to society.</i>	Constantine , David (GB) Motivation
2 / 4	Übereinkommen über die Rechte von Menschen mit Behinderungen und Mobilitätshilfen - Artikel 20 und 26 und WHO	Khasnabis , Chapal (CH) World Health Organization
3 / 4	Antwort internationaler NROs auf die Anwendung des Übereinkommens <i>The aim of Making It Work is to provide a uniform methodology to share and exchange examples of good practices. The added value of MIW is to act as a clearinghouse for information on what works and how this knowledge can be used to advocate for both practitioner and policy change at all levels.</i>	Urseau , Isabelle (FR) Handicap International

4 / 4 **Übereinkommen und orthopädietechnische Leistungserbringung** **Harte, Carson (IE) | Cambodia Trust**

30. Dienstag 11.05.2010 | 15:00 - 16:30 | MZF 1/2 | Themenblock

[3744]

Open Forum 1

Themenblock Vorsitz: **Franke, Jens (DE) | Bundesinnungsverband für Orthopädie-Technik**

Themenblock Vorsitz: **Magnusson, Lina (SE) | Jönköping University School of Health Sciences**

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| 1 / 8 | Development of the Prosthetic Casting Simulator for Trans-Femoral Amputation in P&O Education
<i>A casting for Trans-femoral prostheses is considered to be most difficult work, requiring advanced techniques for a prosthetist. For this reason we developed the Prosthetic Casting Simulator for Trans-femoral amputation which is available in P&O education.</i> | Oda, Takeshi (JP) Kobe college of medical welfare |
| 2 / 8 | Sudanese Diploma in Lower-limb Prosthetics and Orthotics (SDPO) – an ICRC 3-year Modular Training Course in Lower-limb Prosthetics and Orthotics
<i>Physical rehabilitation Centres in Sudan are struggling with their estimated 200000 physical disabled, as services capacity is way below the needs. The ICRC responds to the lack of P&O professionals by delivering in Khartoum a 3-year modular course in lower-limb prosthetics and orthotics (SDPO)</i> | Matagne, Bernard (SD) International Committee of the Red Cross |
| 3 / 8 | Prosthetist/Orthotist Educational Experience & Professional Development in Pakistan
<i>Pakistan graduates indicated that P&O services for Pakistan can be better provided by modifying program content, upgrading teachers' knowledge, improving access to information and addressing issues of gender equality.</i> | Magnusson, Lina (SE) Jönköping University School of Health Sciences |
| 4 / 8 | The International Program of Prosthetics and Orthotics Education in Thailand
<i>The P&O International program will open on June, 2010 after the SSPO was accredited by ISPO category 1 education as the first school in Thailand and south East Asia.</i> | Rakbangboo, Thanyaporn (TH) Sirindhorn School of Prosthetics and Orthotics |
| 5 / 8 | Continuing Professional Development in Post-Graduation Practice: Cambodian Prosthetist-Orthotists
<i>Key words: CPD, professional development, continuing education, capacity building, staff training, low income countries, Cambodia</i> | Kheng, Sisary (KH) Cambodia Trust |
| 6 / 8 | Prosthetics & Orthotics Undergraduate Education Programme for the Sichuan Earthquake Stricken Areas
<i>The Hong Kong Polytechnic University and the Sichuan University, have worked together and launched a 4-year full time Prosthetics & Orthotics undergraduate education programme at the Sichuan University to train prosthetics and orthotics professionals. The programme was started in September 2009.</i> | Leung, Aaron K. L. (HK) The Hong Kong Polytechnic University |
| 7 / 8 | Training Prosthetic Technicians in the Dominican Republic - A Report on Program Evaluation
<i>This program evaluation was designed to assess the effect of a training provided by an NGO. The program goal was to develop knowledge and skills in a group of prosthetic technicians in the Dominican Republic. Data were gathered from trainers and trainees using face to face interviews and surveys</i> | Phillips, Julia A. Gass (US) Phillips and Company |
| 8 / 8 | Exploring the Effectiveness of the Mental Health First Aid Course for Prothetists and Orthotists in Australia | Steel, Andrew (AU) Ballart Health Service |

31. Dienstag 11.05.2010 | 17:00 - 18:30 | Saal 1 | Themenblock | Unterthema/Track: Amputation/Prothetik

[3657]

Beinprothetik - Hightech-Fuß

Themenblock Vorsitz: **Moser, David, Dr. (GB) | Blatchford**

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| 1 / 7 | Prothesenfüße zum Experimentieren fördern das Verständnis für die Funktionen eines Prothesenfußes bei Prothesenträgern
<i>This paper describes our approach of using experimental prosthetic feet to examine effects of prosthetic foot features on gait of prosthesis users. We</i> | Fatone, Stefania (US) Northwestern University |
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describe the results of two double-blind studies (n=14 for each study) that examined effective keel length and forefoot flexibility effects.

2 / 7	Beurteilung der biomechanischen Optimierung der Festigkeit im Knöchel-Fuß-Bereich einer intelligenten mikroprozessorgesteuerten Prothese <i>A novel microprocessor controlled ankle-foot system has been developed. Analysis of the system showed that foot function can be enhanced by intelligently adapting and matching foot stiffness to better suit varied walking activities particularly on uneven surfaces.</i>	Moser, David (GB) Blatchford
3 / 7	Robustes Bodenerkennungssystem zur vorausschauenden Kontrolle aktiver bodenadaptiver Beinprothesen <i>Concepts for active limb prostheses cannot manage step-to-step real time adaption to ground. We present a method to overcome this problem with an optical simultaneous terrain detection system which is mounted of the prosthesis and generates the input for the control strategy of the prosthesis.</i>	Kleiner, Bernhard (DE) Fraunhofer Institut für Produktionstechnik und Automatisierung
4 / 7	Eine neuartige Knieprothese zum Snowboarden <i>Snowboarding with a below-knee prosthesis is compromised by the limited rotation capabilities of existing below-knee prostheses. Based on snowboarding range of motion analyses, a novel below-knee prosthesis was designed with the aim to achieve similar range of motions like able-bodied snowboarders.</i>	Plettenburg, Dick (NL) Delft University of Technology
5 / 7	Beitrag einer flexiblen Prothese zur Verbesserung der Gesundheit <i>Each year we treat some 250 to 300 limb amputated patients and provide them with prostheses. One possibility is to incorporate a flexible rod system (Clever Bone®). We carried out a prospective, double-blind, randomised trial on 28 patients who had undergone below-knee amputation.</i>	Kickinger, Wolfgang (AT) Sonderkrankenanstalt Zicksee
6 / 7	Ein neuer hydraulischer Fuß <i>A new hydraulic foot/ankle system by Motion Control will be presented - the evolution of the design objectives, the development challenges, and the subsequent design trade-offs. Outcomes and wearer's impressions will also be presented from initial limited release to approximately 40 full-time wearer</i>	Iversen, Edwin K. (US) Motion Control Inc.
7 / 7	Analyse der Auswirkungen von verschiedenen Prothesenfüßen auf die Kräfte und Momente in einer Beinprothese - eine Pilotstudie <i>Five lower extremity amputees performed walking trials with 4 different types of prosthetic feet and gave feedback via survey. A device was installed onto the prosthesis to measure forces and moments. Trends in the force and moment data will be correlated to subject performance and feedback.</i>	Brown, Ellenor (US) Georgia Institute of Technology

32. [3553] Dienstag 11.05.2010 | 17:00 - 18:30 | Saal 2 | Symposium | Unterthema/Track: Verschiedenes

Bionik

Themenblock Vorsitz: **Buis**, Arjan , Dr. (GB) | NCPO University of Strathclyde

Themenblock Vorsitz: **Henderson**, Emma , Dr. (UK) | University of Strathclyde

1 / 3	Bionik für die Medizin	Vincent, Julian (UK) University of Bath
2 / 3	Bionik in der Prothetik	Buis, Arjan (GB) NCPO University of Strathclyde
3 / 3	Bionik in der Orthetik	Jones, Derek (UK) University of Strathclyde

33. [3659] Dienstag 11.05.2010 | 17:00 - 18:30 | Saal 3 | Themenblock | Unterthema/Track: Amputation/Prothetik

Armprothetik - funktionale Passteile 2

Themenblock Vorsitz: **Sensinger**, Jonathon , Dr. (US) | Rehabilitation Institute of Chicago

Themenblock Vorsitz: **Uellendahl**, Jack , CPO (US) | Hanger Prosthetics and Orthotics, Inc.

1 / 7	Verändertes Greifen, veränderter Kraftaufwand und veränderter Blickkontakt beim Umgang mit dem myoelektrischen Simulator und der MyoHand VariPlus Speed <i>Different ways to learn using a myoelectric simulator did not affect training results. Object rigidity affected coordination of reach and grasp in</i>	Bongers, Raoul (NL) University of Groningen
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prehension and learning force control required more time than learning to control prehension. This can serve as a basis to set up prosthetic training.

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| 2 / 7 | Klinischer Test zu 6 adaptiven Handprothesen im Vergleich zu 6 elektrischen Standard-Handprothesen - Vorteile und Nachteile aus der Sicht des Anwenders
<i>In a two month evaluation 6 Patients, used to control standard electric hands, got the chance to try new adaptive hands to find out the advantages or disadvantages of this new handtyp in real life situations.</i> | Kretz, Dieter (DE)
Orthopädietechnik von
Bültzingslöwen |
| 3 / 7 | Biomechanische Beurteilung einer frei schwingenden Schulterprothese beim Gehen und Stehen für Schulteramputierte
<i>This study shows that wearing an arm prosthesis due to a unilateral shoulder amputation has positive physiological effects while walking and standing. The varising moments on the knee joint are reduced by an arm prosthesis that harmonises the gait pattern and optimises body alignment.</i> | Bertels, Thomas (DE) Otto Bock
HealthCare GmbH |
| 4 / 7 | 20 Jahre nach einer bilateralen Schulterexartikulation
<i>This presentation will outline the original prosthetic design rationale and describe subsequent changes to the bilateral shoulder disarticulation prostheses developed for this user. Video will be used to demonstrate the high level of function achieved by this highly motivated and innovative user.</i> | Uellendahl, Jack (US) Hanger
Prosthetics and Orthotics, Inc. |
| 5 / 7 | Gewicht kompensierendes Schultergelenk zur Unterstützung kurz transhumeraler Amputierter
<i>A weight compensating mechanism has been developed that permits a short transhumeral amputee to use a powered prosthesis to work with the arm extended in front. Compensation is minimal at full shoulder extension and maximal at 90° of flexion. Abduction can be either free or compensated.</i> | Williams III, T. Walley (US)
Liberating Technologies, Inc |
| 6 / 7 | Aktivitätsabhängige Eigenschaften für Armprothesen
<i>This presentation will highlight several patient stories including their custom made activity- specific prostheses. A few examples include trans-humeral mountain biking prosthesis, trans-radial baseball/golf prosthesis and wrist-disarticulation lacrosse prosthesis.</i> | Spill, Ryan (US) |
| 7 / 7 | Zykloidgetriebe für motorisierte Prothesen
<i>Cycloid drives provide high efficiency and strength in a compact package. This study compared performance characteristics of cycloid drives and harmonic drives. Both drives have benefits and disadvantages. Cycloid drives should be considered for incorporation into the design of future prostheses.</i> | Sensinger, Jonathon (US)
Rehabilitation Institute of Chicago |

34. Dienstag 11.05.2010 | 17:00 - 18:30 | Saal 4 | Themenblock | Unterthema/Track: Rehabilitation
[3687]

Rehabilitation - Armamputation

Themenblock Vorsitz: **Stark, Gerald**, CPO/L, FAAOP (US) | The Fillauer Companies Inc.

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| 1 / 8 | Erfolg definieren nach Verlust der oberen Extremität - Protheseneinsatz, Aktivitäten, Teilnahme und Selbstbild
<i>A Delphi study with Rehabilitation professionals (RP's) and individuals with upper limb loss (ULL) was conducted to reach group consensus on what constitutes successful outcomes in three key areas, 'prosthesis use', 'activities and participation', and 'self image'.</i> | Ni Mhurchadha, Sinead (IE)
Dublin City University |
| 2 / 8 | Klinische Richtlinien für bilaterale Versorgung der oberen Extremität
<i>The bilateral upper extremity patient presents with a number of fitting challenges that may be intimidating. Various factors that must be addressed with respect to evaluation, component selection, fitting timeline, interface design, and harnessing as well as overall functional optimization.</i> | Stark, Gerald (US) The Fillauer
Companies Inc. |
| 3 / 8 | Prothesentraining mit einer voll-funktionalen, myoelektrischen Oberarmprothese
<i>Different case examples will show a training with two different types of upper arm prosthesis (both electrical prosthesis). Also a brief overview will demonstrate the functional differences between a conventional, myoelectrical system hand and an adaptive hand with individually movable fingers.</i> | Banzhaf, Andre (DE) Brillinger
OT |
| 4 / 8 | Entwicklung und Aussagekraft des Fragebogens zur Praxiserfahrung mit der Kinderhand
<i>A questionnaire for evaluation of children's experiences of using the affected hand in bimanual task performance was developed. Internal scale validity</i> | Norling Hermansson, Liselotte M (SE) Örebro county council |

and the appropriateness of the rating scale structure were confirmed by Rasch analysis. The CHEQ is a useful tool for clinical work and research.

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| 5 / 8 | Inhaltsvergleich der Zielparameter für Armprothesen basierend auf der internationalen Klassifikation der Funktionsfähigkeit, Behinderung und Gesundheit (ICF)
<i>The contents of eight outcome measures designed for upper limb prosthesis users were linked to the International Classification of Functioning, Disability and Health. The items/questions in these measures measure body functions, prosthesis use in activities and participation in major life areas.</i> | Lindner, Helen (SE) Örebro University |
| 6 / 8 | Akzeptanz von Armprothesen bei Kindern und Jugendlichen
<i>To provide an prosthesis for the upper limb in children many factors need to be considered. Parents should be informed directly after birth and prosthesis supply should start early. Finding the right prosthesis is an individual task that should be done step by step in a specialized unit</i> | Illgner, Ulrich (DE) Uniklinikum Münster |
| 7 / 8 | Einsatz von Prothesen für die obere und untere Extremität bei Farmern und Ranchern in den USA
<i>Farming and ranching in the United States is a hazardous occupation. Many non-fatal farm accidents result in amputation. This paper describes the utilization of upper- and lower-limb prostheses by farmers and ranchers and improvements in prosthetic options needed for the farm and ranch enviro</i> | Waldera, Kathy (US) Northwestern University |
| 8 / 8 | Klinische Erfahrung und Rehabilitation von amputierten Militärdienstangehörigen im Center for the Intrepid
<i>This lecture will discuss the clinical experiences at the Center For the Intrepid located at Brooke Army Medical Center providing rehabilitation of amputee military service members.</i> | Ebner, Christopher (US) Center For the Intrepid, Brooke Army Medical Center |

35.
[3945]

Dienstag 11.05.2010 | 17:00 - 18:30 | Saal 5 | Symposium | Unterthema/Track: Rehabilitation

Nutzen und Bedeutung von gutem Sitzen und Rolle des Peer Trainings an Einrichtungen mit wenig finanziellen Mitteln

Themenblock Vorsitz: **Rushman, Chris (GB)** | Motivation Charitable Trust UK

Themenblock Vorsitz: **Pryor, Wesley (IN)** | Handicap International

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| 1 / 2 | Verschiedene Ansätze zu Bedürfnissen von Kindern, die auf unterstütztes Sitzen bei Einrichtungen mit wenig finanziellen Mitteln, angewiesen sind | Frost, Sarah (GB) Motivation |
| 2 / 2 | Rolle des Peer Trainings an Einrichtungen mit wenig finanziellen Mitteln | Constantine, David (GB) Motivation |

36.
[3745]

Dienstag 11.05.2010 | 17:00 - 18:30 | MZF 1/2 | Themenblock

Open Forum 2


Themenblock Vorsitz: **Franke, Jens (DE)** | Bundesinnungsverband für Orthopädie-Technik

Themenblock Vorsitz: **Schlierf, Christian (DE)** | Human Study e.V.

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| 1 / 7 | Developing a National Qualification for Orthotic and Prosthetic Technicians
<i>There has never been a nationally recognised qualification for Orthotic and Prosthetic Technicians working in the United Kingdom. This paper will explain the process of bringing the various bodies together make this long needed qualification a possibility</i> | Adam, Ian (UK) Yorkhill Hospital |
| 2 / 7 | The Redesign Implementation and Accreditation of 4 years Honours and 5 years Masters Progr. in P&O at the NCPO University of Strathclyde, Scotland
<i>This paper will initially describe the review procedures of the new 4 year Honours programme at undergraduate level for the education and training for Prosthetists and Orthotists in the UK at Strathclyde University.</i> | Figgins, Elaine (UK) University of Strathclyde |
| 3 / 7 | Development of a Technology Enabled, Problem Based Learning Module for Teaching Knee Anatomy, Biomechanics and Knee Orthosis Design
<i>BCIT has developed a module for teaching knee orthotics, using the high quality graphics and easy to use interface of NGRAIN technology,</i> | Raschke, Silvia Ursula (CA) British Columbia Institute of Technology |

which allows students to quickly and comprehensively grasp complex 3-D movements and relationships and apply them using a Problem Based Learning (PBL) approach.

4 / 7	Prosthetics & Orthotics Education and Research in the United Kingdom – The University of Salford’s Newly Developed and Validated Honours Degree Program <i>Significant changes affecting p&o education and research have recently occurred in the UK. The University of Salford honours degree programme has been reviewed and restructured to reflect these changes in practice. The Health Professions Council commended the progr. team for consultation/preparation</i>	Head, John (DE) Centre for Rehabilitation and Human Performance Research Brian Blatchford Building
5 / 7	Upgrading Education in South East Europe on ISPO Cat.II Level for Experienced Orthopedic Technicians on the Job <i>In order to improve the quality of orthotic and prosthetic services, medical health professionals and technicians in the South East Europe region require additional comprehensive professional training which has the potential for individual professional international recognition.</i>	Schlierf, Christian (DE) Human Study e.V.
6 / 7	University Education in Prothetics and Orthotics <i>Education in Prosthetics and Orthotics (P&O) is a relatively new health science with training for the profession changing from an apprenticeship to a University graduate degree in a relatively short period of time (Hughes, J. 1992).</i>	Anderson, Sarah (AU) LaTrobe University
7 / 7	A New Era in Prothetics and Orthotics Education at La Trobe University <i>Responding to increasing health care complexity in Australia, La Trobe University has introduced an innovative curriculum incorporating interprofessional education and Enquiry-Based Learning aimed at preparing graduates for the dynamic and challenging field of prosthetics and orthotics.</i>	English, Rowan (AU) La Trobe University

37. Mittwoch 12.05.2010 | 08:00 - 09:15 | Saal 1 |  Advanced Instructional Course | Unterthema/Track: Amputation/Prothetik

Quantifizierung des transfemorale Schafstizes

Themenblock Vorsitz: **Murray, Kevin, Dr. (UK) | University of Strathclyde**

Themenblock Vorsitz: **Drerup, Burkhard, Prof. Dr. (DE) | Klinik für Technische Orthopädie und Rehabilitation**

1 / 5	Ultraschall als ein Mittel zur Quantifizierung des transfemorale Schafstizes <i>This instructional course will present current research methods used to quantify trans-femoral socket fit. Engineering principles and current research will be presented to enhance an understanding of ‘what is a successful socket fit’.</i>	Murray, Kevin (UK) University of Strathclyde
2 / 5	Beurteilung prothetischer Anpassung nach Grundlagen des Ingenieurwesens <i>Evidence based practice is important in providing the best possible care and to enhance quality of life. However, there is no consensus about what constitutes a good socket fit. Prosthetics and biology may be too complicated to allow identification and quantification of all relevant parameters. Nevertheless, we must endeavour to improve our understanding of the mechanisms and fundamentals of socket fit if we are to contribute to product quality. This presentation will address three main areas of interest in socket design and illustrate the arguments with reference to trans-tibial prosthetics. The areas of interest are • Definition of a good socket fit. • Socket fit and related tissue mechanics. • Implementation of a good fit. The load transmission systems which apply may be optimised with reference to elementary Physics, Mechanics, Fluid Mechanics and Strength of Materials and will be discussed. These include: 1. Elastic, unidirectional compressions of thin layers of soft tissues, 2. Quasi-hydrost</i>	Buis, Arjan (GB) NCPO University of Strathclyde
3 / 5	Ultraschalluntersuchung der Bewegungen des Femurstumpfes in verschiedenen Schäften in der Frontal- und Sagittalebene	Balcaitis, Rolanas (DE) Klinische Prüfstelle für orthopädische Hilfsmittel
4 / 5	Intraindividueller Vergleich verschiedener Schaftdesigns - biomechanische und prothetische Aspekte	Tiemeyer, Kerstin (DE) Universitätsklinikum Münster,

Klinik und Poliklinik Technische
Orthopädie

5 / 5 **Intraindividueller Vergleich verschiedener Schafftypen - klinische Aspekte**

Schüling, Stefan (DE) |
Universitätsklinikum Münster,
Klinik und Poliklinik Technische
Orthopädie

38.
[3529]

Mittwoch 12.05.2010 | 08:00 - 09:15 | Saal 2 | Basic Instructional Course | Unterthema/Track: Neuroorthopädie
Orthesen für Patienten mit Polio und Post-Polio-Syndrom

Themenblock Vorsitz: **Nollet**, Frans , Prof. Dr. (NL) | Academic Medical Center University of Amsterdam

Zusammenfassung: *This basic instructional course focuses on when to apply lower extremity orthotics in post-polio syndrome patients; for which clinical indications and for what functional deficits. The biomechanical effects of the main types of AFO's and KAFO's will be discussed and the manufacturing of orthotics according to biomechanical principles using carbon composites. The course will be based on a case oriented approach and illustrated with 3D gait analysis data.*

1 / 2 **Funktionale Analyse zur Verordnung orthetischer Hilfsmittel beim Post-Polio-Syndrom**

Nollet, Frans (NL) | Academic
Medical Center University of
Amsterdam

2 / 2 **Gestaltung und Herstellung von leichten Vollkontakt-Orthesen aus Carbonfaser für Patienten mit Post-Polio-Syndrom**

Noppe, Kees (NL) | Noppe OIM

39.
[3572]

Mittwoch 12.05.2010 | 08:00 - 09:15 | Saal 3 | Basic Instructional Course | Unterthema/Track: Rehabilitation
Entscheidung bei Frakturversorgung in Bezug auf die Mobilisierung

Themenblock Vorsitz: **Hemmen**, Bea , MD PhD (NL) | Adelante Zorggroep Hoensbroeck Revalidatie Centrum

Zusammenfassung: *Polytrauma patients have serious injuries of the locomotor system, often combined with damage to vital organs such as the brain and lungs. After surgery, a long rehabilitation period is needed that places high demands on the patient, the surgeon and the rehabilitation physician, who all need to work closely with physiotherapists, nursing staff and, to a lesser extent, orthotists. The treatment aim for polytrauma patients is not only fixation of fractures, but also functional after-treatment to allow muscles and joints to be exercised. To what degree this can be generalized is not clear and is often subject to debate - sometimes even controversy. In this instructional course, the speakers share their knowledge in this field by way of lectures and a workshop.*

1 / 4 **Knochenheilung**

Brink, Peter (NL) | Maastricht
University Medical Centre

2 / 4 **Verschiedene Methoden zur Versorgung von Frakturen in Bezug auf die axiale Beanspruchung**

Verbruggen, Jan (NL) | Maastricht
University Medical Centre

3 / 4 **Axiale Beanspruchung und Erlaubnis zur frühfunktionalen Nachbehandlung in Bezug auf die postoperative Physiotherapie**

Windolf, Markus (CH) | AO
Research Institute Davos

4 / 4 **Frührehabilitation von Patienten mit Polytrauma**

Hemmen, Bea (NL) | Adelante
Zorggroep Hoensbroeck
Revalidatie Centrum

40.
[3630]

Mittwoch 12.05.2010 | 08:00 - 09:15 | Saal 4 | Advanced Instructional Course | Unterthema/Track: Amputation/Prothetik

Armprothetik

Themenblock Vorsitz: **Thurston**, Alan , Prof. (NZ) | Wellington School of Medicine and Health Sciences

Themenblock Vorsitz: **Beasley**, Wyn (NZ) | New Zealand Artificial Board

Zusammenfassung: *The course covers the problems of fitting prosthetic upper limbs, the choice of components and some the technical aspects of prosthetic upper limbs. There is also a selection on the latest developments.*

1 / 5 **Grundlegende Struktur und Funktion der menschlichen Hand**

This paper covers basic anatomy, sensory functions and movements of the joints of the digits and the wrist - Included are the different types of grip, appearance and cosmesis, the use of the hand for support (changing positions) and as an organ of expression.

Thurston, Alan (NZ) | Wellington
School of Medicine and Health
Sciences

Beasley, Wyn (NZ) | New Zealand
Artificial Board

2 / 5 **Das Rezept (eine Extremität wählen)**

This paper covers assessments of the level of amputation, the condition of the stump, the level of activity of the amputee and a consideration of special

Thurston, Alan (NZ) | Wellington
School of Medicine and Health
Sciences

requirements. It includes discussions on different power sources (passive to myoelectric) and choosing a terminal device.

Beasley, Wyn (NZ) | New Zealand Artificial Board

3 / 5 **Anpassung der Prothese an den Amputierten**

This paper covers an assessment of the requirements of the amputee (weight, cosmesis, durability & etc), the prosthetists requirements (materials, components, strength, ease of working/manufacture and ease of alignment and adjustment) and the advantages and disadvantages of the different materials that are available. It also includes socket designs, suspension systems, harnesse

Thurston, Alan (NZ) | Wellington School of Medicine and Health Sciences

Beasley, Wyn (NZ) | New Zealand Artificial Board

4 / 5 **Fortschritte in der Myoelektrik**

This paper covers basic physiology of the nerve/muscle unit, electromyography and the components of a basic myoelectric prosthesis. It also includes a comparison of myoelectric versus body-powered prostheses, explaining the advantages and disadvantages of each system. Also included is an explanation of the control of myoelectric prostheses, battery durability and drain, signal processing and a section on targeted reinnervation.

Thurston, Alan (NZ) | Wellington School of Medicine and Health Sciences

Beasley, Wyn (NZ) | New Zealand Artificial Board

5 / 5 **Studie zu myoelektrischen Extremitäten aus Neuseeland**

Thurston, Alan (NZ) | Wellington School of Medicine and Health Sciences

Beasley, Wyn (NZ) | New Zealand Artificial Board

41. Mittwoch 12.05.2010 | 08:00 - 09:15 | Saal 5 | Advanced Instructional Course | Unterthema/Track: Orthetik

[3737]

Orthetik untere Extremität

Themenblock Vorsitz: **Schulte, John (US)** | Fillauer Companies

Themenblock Vorsitz: **Owen, Elaine (UK)** | North West Wales NHS Trust

1 / 2 **Verwendung von dynamischen Orthesen in der eigenen Praxis**

Schulte, John (US) | Fillauer Companies

2 / 2 **Die Bedeutung aufrichtig zu sein, wenn es im Unterschenkelkinematik geht, insbesondere beim Tragen von AFOs**

Owen, Elaine (UK) | North West Wales NHS Trust

42. Mittwoch 12.05.2010 | 09:30 - 10:00 | Saal 1 | Keynote-Vortrag

[3785]

Neuroorthopädie unter Berücksichtigung der Orthopädie-Technik

Keynote Redner: **Döderlein, Leonhard, Dr. med. (DE)** | Orthopädische Kinderklinik Aschau

Zusammenfassung: *In der Neuroorthopädie stellt die Orthopädie-Technik traditionell einen ganz entscheidenden Therapiepfeiler dar, da die funktionellen Defizite sich in den allermeisten Fällen durch operative Maßnahmen nicht vollständig beheben lassen. Das Zusammenwirken von operativen wohl indizierten Maßnahmen und orthopädietechnischer Versorgung vermag im individuellen Fall den höchstmöglichen Gewinn für den Patienten zu erreichen. Während sich die bisherige orthopädietechnische Versorgung schwerpunktmäßig auf Stützapparate beschränkte, die muskulär nicht stabilisierbare Gelenke extern führten, bieten neuere Entwicklungen auch die Möglichkeit des zumindest teilweisen Ersatzes fehlender Muskulatur. Der Einbau einer geführten Dynamik in Orthesen stellt nicht nur den für den Patienten wichtigen Gewinn an Ästhetik, sondern auch an Funktionalität sicher. Im Vordergrund dieser Versorgung stehen naturgemäß Probleme im Bereich der unteren Extremität, allerdings bieten sich die dynamischen Versorgungstechniken allmählich auch im B*

43. Mittwoch 12.05.2010 | 10:30 - 12:00 | Saal 1 | Themenblock | Unterthema/Track: Amputation/Prothetik

[3669]

Beinprothetik - funktionale Kniepassteile 1

Themenblock Vorsitz: **Blumentritt, Siegmund, Prof. Dr. (DE)** | Otto Bock HealthCare GmbH

1 / 3 **Ein neuer Ansatz für die Schwungphase und Schwungphasenkontrolle bei mikroprozessorgesteuerten Kniegelenken**

Seyr, Martin (AT) | Otto Bock Healthcare Products GmbH

A new control method for a microprocessor controlled knee has been developed that 1. allows robust detection of swing release, 2. minimizes initial swing resistance, 3. adapts swing control in real-time for various cadences.

2 / 3 **Mikroprozessorgesteuerte Kniegelenke - Funktioneller Zugewinn im Alltag für Amputierte mit Amputationshöhe 2 laut US-Krankenkasse**

Theeven, Patrick (NL) | Adelante

In this clinical study the level of functional performance of transfemoral amputees during daily activities was evaluated for 3 types of prosthetic knee joints. The majority of this heterogeneous group of prosthesis users seems to benefit from a microprocessor-controlled knee joint in daily life.

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| 3 / 3 | Potenzielle Sicherheit von aktuellen mikroprozessor- und nicht mikroprozessorgesteuerten Prothesenkniegelenken
<i>Knee safety was tested in 11 amputees wearing NMPC and MPC knees. The objective reason for knee stability or instability for each individual trial including the reason for knee collapse was identified. This study protocol proved to be suitable for defining the potential safety of tested knee joints.</i> | Blumentritt, Siegmar (DE) Otto Bock HealthCare GmbH |
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44. Mittwoch 12.05.2010 | 10:30 - 12:00 | Saal 2 | Themenblock | Unterthema/Track: Neuroorthopädie
[3681] **Neuroorthopädie**

Themenblock Vorsitz: **Postema, Klaas**, Prof. Dr. (NL) | University Medical Center Groningen

Themenblock Vorsitz: **Swanepoel, Jacques** (ZA) | Tshwane University of Technology

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| 1 / 9 | Klinische Methode zur Beurteilung und Verbesserung der Sitzposition von Kindern mit Tetraplegie
<i>A standardized clinical tool for assessing and correcting seating positioning in children with quadriplegic cerebral palsy leads to significant impact for determining and improving quality of life.</i> | Swanepoel, Jacques (ZA) Tshwane University of Technology |
| 2 / 9 | Versorgung des spastischen Spitzfußes bei Zerebralparese - ist es möglich verbesserte Ergebnisse zu erzielen bei vorheriger Botulinumtoxin-Behandlung? | Baise, Monique (DE) Orth. Kinderklinik Aschau |
| 3 / 9 | Wirksamkeit des passiven Radfahrens mit einem Elektrofahrrad für Spastiker - iranische Veteranen mit Rückenmarksverletzungen
<i>A major side effects of Spinal cord injury is spsticity, The purpose of this clinical trial was to evaluate the effects of Electrical Passive Pedal cycling (EPPC) usage on spasticity clinically and H-reflex electrophysiologically, which showed positive results about therapeutic effects of EPPC.</i> | Shojaei, Hadi (IR) Janbazan medical and engineering research center |
| 4 / 9 | Die Auswirkung neu designer dynamischer Polstersysteme mit Federelementen für die Druckverteilung am Gesäß bei Patienten mit Rückenmarkverletzung
<i>In this study, the effect of newly-designed dynamic cushion system with spring element in the buttocks pressure distribution in patients with spinal cord injury was evaluated by buttock pressure measurement. The efficacy of pressure sore prevention of this cushion system was also evaluated.</i> | Tang, Simon Fuk-Tan (TW) Chang Gung Memorial Hospital |
| 5 / 9 | Testen eines neuen Sitzsystems für Kinder mit einer neuromuskulären Erkrankung
<i>A novel adaptive seating system featuring a number of innovative features was developed and tested on children with CP against their current seating systems. Subjects were found to have a small improvement in head posture and function in the novel system.</i> | Telfer, Scott (UK) University of Strathclyde |
| 6 / 9 | Neues Bewegungs- und dynamisch-funktionales Orthesenkonzept mit einem funktional-dynamischen Schienensystem und myo-orthetischer Versorgung für Schlaganfall-Überlebende
<i>The authors describe an innovative and complex treatment concept, for stroke survivors suffering from a loss of hand and arm function, and foot drop syndrome caused by a lesion in the central nervous system.</i> | Preisler, Benedikt (DE) Pro Walk GmbH |
| 7 / 9 | Behandlung des Zehenspitzenenganges mit Pyramideneinlagen nach Pomarino®
<i>Im PTZ-Pomarino wird der Zehenspitzenang in 3 Stufen behandelt. Stufe 1: Versorgung mit Pyramideneinlagen nach Pomarino®, eventuell zusammen mit Physiotherapie; Erfolgsquote: ca. 90% . Stufe 2: Therapieerweiterung um individuell angefertigte Nachtschienen. Stufe 3: Behandlung mit Botox®.</i> | Pomarino, David (DE) Physiotherapiezentrum |
| 8 / 9 | Wirksamkeit der Vibration zur Verbesserung der Standfähigkeit für Menschen mit diabetischer Neuropathie
<i>Different types of vibration were applied to the plantar surface of the feet in five patients with Diabetic Neuropathy, in order to improve balance control. An upper cut-off frequency of 200 Hz seems to be most effective. The applied amplitude seems to be of smaller influence on the effectiveness.</i> | Postema, Klaas (NL) University Medical Center Groningen |

- 9 / 9 **Potentiale und Grenzen der konservativen Behandlung von neuromuskulären Krankheiten** **Lebek, Susanne (DE) | Universitätsklinikum Halle**
In a retrospective investigation it will be demonstrated which conservative treatment methods, e.g. orthotic devices, physical therapy, are provided and as such effective.

45. Mittwoch 12.05.2010 | 10:30 - 12:00 | Saal 3 | Symposium | Unterthema/Track: Orthetik

[3524]

Entwicklung in der Beinorthetik

Themenblock Vorsitz: **Nollet, Frans**, Prof. Dr. (NL) | Academic Medical Center University of Amsterdam

Zusammenfassung: *In recent years innovations in orthotic devices for the lower extremities have emerged after decades of inertia. Stance Control knee joints and the application of new materials, especially carbon composites are the most exciting. In this symposium the current standings regarding orthotic devices for the lower extremities in non-spastic disorders will be reviewed and future developments will be discussed. A concern is that the amount of research on the effectiveness of lower extremity orthotics is rather scarce. However, results of high-quality research will become more important in the future to demonstrate the benefits of new technology. The symposium will end with a presentation on the crucial methodological issue which outcomes should be applied in clinical trials.*

- 1 / 4 **Momentane Bedeutung der Beinorthesen bei Paresen ohne Spastik** **Nollet, Frans (NL) | Academic Medical Center University of Amsterdam**
This presentation summarizes the lack of evidence to decide on the prescription of an orthosis and reports on the progress of an expert opinion based multidisciplinary guideline project.
- 2 / 4 **Finden der optimalen AFO - Einfluss der mechanischen Eigenschaften auf einen effizienten Gang** **Bregman, Daan J.J. (NL) | VU University Medical Center**
The mechanical AFO characteristics, such as the stiffness and neutral angle around the forefoot and ankle joints, need to be well-tailored to the patients gait related problems in order to improve walking efficiency. AFOs with different stiffnesses have different effects throughout the gait phase.
- 3 / 4 **Momentane und zukünftige Trends für standsichernde und angetriebene orthetische Hilfsmittel** **Lemaire, Edward (CA) | The Ottawa Hospital Rehabilitation Centre**
The role of the orthotist is changing from a provider of passive devices to a clinician that provides intelligent assistive devices that adaptively control motion and, in the near future, actively enhance mobility. Recent advances will be discussed for stance control orthoses provide a wide range of control options and powered lower extremity orthoses.
- 4 / 4 **Betrachtungen zur Ergebnisbeurteilung klinischer Tests zu Unterschenkelorthesen** **Brehm, Merel Anne (NL) | Academic Medical Center, University of Amsterdam**
This paper considers the outcome measures advocated in the literature that are most valid and applicable in clinical trials on lower limb orthoses to evaluate gait and functioning.

46. Mittwoch 12.05.2010 | 10:30 - 12:00 | Saal 4 | Themenblock | Unterthema/Track: Fuß und Schuh

[3679]

Fuß & Schuh - Diabetes und rheumatische Arthritis

- 1 / 6 **Druckentlastung mittels Unterschenkel-Total Contact Cast (TCC) in der Behandlung von diabetischen Fußulzera - Ergebnisse einer Multizenter-Studie in Deutschland** **Zink, Karl (DE) | Diabetes Klinik Bad Mergentheim GmbH & Co KG**
Multicentre prospective clinical evaluation conducted at six DDG (German Diabetes Association)-certified foot treatment facilities to verify the efficacy and usability of the bivalved Total Contact Cast (TCC) for pressure relief in patients with diabetic foot ulcers.
- 2 / 6 **Druckentlastung diabetischer Fußulzera - Erfahrungen mit dem Total Contact Cast in Zwei-Schalen-Technik aus synthetischem Gipsmaterial** **Trentmann, Hermann (DE) | Trentmann - Gromotka Orthopädie-Schuhtechnik GmbH**
The bivalved Total Contact Cast is a highly effective method of pressure relief. When the TCC is applied by well educated personnel, this method is well suited for the off-loading of the diabetic foot, even for the treatment of "problem feet".
- 3 / 6 **Zusammenbruch des medialen Längsgewölbes als Auslöser für den Charcot-Fuß** **Burgwal, Holger (DE) | Fuß + Schuh Breidbach Orthopädie GmbH & Co. KG Sitz Fulda**
Analyse the "medial longitudinal arch" (MLA) (Fig 1) and the extension of the first metatarso-phalangeal joint during the stance phase of gait. Detection of causes of the Charcot foot and thereby risk factors for the affected patients.

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| 4 / 6 | Kann die Fußstellung von DNOAP-Patienten mit einer Unterschenkelorthese korrigiert werden?
<i>Analysis of the question, if it is possible to correct the foot position of patients suffering from Diabetic-Neuro-Osteo-Arthropathy with a lower leg orthosis. Demonstration with case reports approving this procedure.</i> | Stumpf, Jürgen (DE) Fuss und Schuh Breidbach Orthopädie GmbH & Co. KG |
| 5 / 6 | Prof. Seyfrieds funktionales Konzept für die Behandlung des Rheumatischen Fußes - Machbarkeitsstudie
<i>Using kinemetry, pedobarography and electromyography, we investigate the effectiveness of orthotic treatment following Prof. Seyfrieds theory - Based on the functional conditions of the lower extremity and an appropriate staging treatment.</i> | Biber, Daniel (DE) IETEC Orthopädische Einlagen GmbH Produktions KG |
| 6 / 6 | Auswirkung von Abrollschuhen auf den Schmerz, die Behinderung und Bagherzade cham, Masumeh (IR) Aktivitätseinschränkung des rheumatischen Fußes
<i>Rheumatoid arthritis is chronic inflammatory disease that affects the foot and ankle. Rocker shoe prescribed for the symptomatic foot in RA. For 20 RA patients was prescribed heel-to-toe rocker shoe for 30 days and measurement pain, disability and activity limitation with FFI questioner.</i> | |

47. Mittwoch 12.05.2010 | 10:30 - 12:00 | Saal 5 | Themenblock | Unterthema/Track: Rehabilitation
[3691]

Rehabilitation - Gehschulung

Themenblock Vorsitz: **Oehler, Simone**, Dipl.-Ing. (DE) | Technische Universität Berlin

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| 1 / 6 | Wie sollen wir die Kipphebel (Rockers) während des Gehens definieren und gibt es drei oder vier?
<i>A three-event ankle model of the rockers in gait is inadequate. A four-event segment and joint model is preferable.</i> | Owen, Elaine (UK) North West Wales NHS Trust |
| 2 / 6 | Referenzwerte des Gangs unter Verwendung der Zielparame-ter des Ganganalysesystems RehaWatch
<i>The knowledge of reference values is useful for the interpretation of gait analysis results. We present a method to receive reference values from measurements with healthy subjects. These standard values are determined depending on age, body height and gait velocity, based on a linear model.</i> | Kauert, Ralf (DE) Hasomed |
| 3 / 6 | Mobilität von Oberschenkelamputierten - Ergebnisse einer 12-Monats-Studie
<i>A six degree mobile measuring system was developed to investigate the mobility and activity of above-knee amputees with focus on the loads applied to the structure. The results of a one year study with 15 subjects will give insights into daily activities and loads for future standard testing.</i> | Oehler, Simone (DE) Technische Universität Berlin |
| 4 / 6 | Zuverlässigkeit der fünf Aktivitätslevel eingeführt für Militärdienstangehörige mit traumatischen Beinamputationen
<i>Inter-rater and test-retest reliability was determined for five measures of balance, coordination, power, speed, and agility on 83 Military Service members with war-related traumatic amputation. The results demonstrated excellent inter-rater and test-retest reliability for the five tests.</i> | Linberg, Alison (US) Walter Reed Army Medical Center |
| 5 / 6 | Geschwindigkeits- und Mobilitätstest bei Militärdienstangehörigen mit traumatischen Beinamputationen
<i>Sixty-two Military Service members with lower limb loss performed 3 speed and agility tests: modified Edgren Side Step Test (mEST), T-Test (TT), and Illinois Agility Test (IAT). Significant differences were found between service members with and without limb loss and between levels of amputation</i> | Gaunard, Ignacio (US) Bruce W. Carter Department of Veterans Affairs Medical Center |
| 6 / 6 | Gleichgewichtsfähigkeit und Selbstvertrauen - Ergebnis eines Wii Fit Wettkampfes unter Kindern mit unilateraler Beinamputation.
<i>A pilot study was conducted to examine the feasibility and potential benefit of Wii Fit games in promoting symmetrical shifting of weight between the sound and prosthetic leg in children with leg amputation. Compliance was high and small immediate improvement in mobility and balance was observed.</i> | Steinnagel, Bryan (CA) Bloorview Kids Rehab |

48. Mittwoch 12.05.2010 | 12:00 - 14:00 | Foyer Säle | Poster Session | Unterthema/Track: Amputation/Prothetik
[3700]

Prothetik

1 / 1 **Self Organized Real Time Control of an Anthropomorphic Hand using Nerve Signals** Franke, Marc (DE) | Universität Leipzig

49. Mittwoch 12.05.2010 | 14:00 - 14:30 | Saal 1 | Keynote-Vortrag

[3786]

Visionen in der Orthopädie-Technik: Zukünftige Entwicklungen in der orthopädiotechnischen Versorgung

Keynote Redner: van der Linde, Harmen , PhD (NL) | University Hospital Nijmegen, the Netherlands

Zusammenfassung: In der orthopädiotechnischen Versorgung sind verschiedene Veränderungen absehbar: Nicht nur die Entwicklung von Hightech Prothesen und -Orthesen wird an Bedeutung zunehmen, sondern auch die Behandlungsplanung unter Berücksichtigung der Wünsche, Möglichkeiten und der tatsächlichen Leistungsfähigkeit der Patienten. In Anlehnung an das WHO-Modell zur internationalen Klassifikation der Funktionsfähigkeit, Behinderung und Gesundheit (ICF-Modell) ist es wünschenswert, dass Indikation und Zielsetzung sich mehr am Aktivitäts- und Partizipationsgrad der Patienten orientieren. Über die biomechanischen und physiologischen Aspekte beim Gebrauch von Prothesen oder Orthesen ist zwar viel bekannt, die Behandlung könnte jedoch signifikant verbessert werden, wenn sich die Forschung auch auf die Behinderung und Teilnahme im Rahmen der Rehabilitation konzentrieren würde. Dank der Entwicklung zahlreicher Leitlinien für die Orthopädie-Technik lässt sich die Indikation eines orthopädiotechnischen Eingriffs heute besser bestimmen

50. Mittwoch 12.05.2010 | 15:00 - 16:30 | Saal 1 | Symposium | Unterthema/Track: Amputation/Prothetik

[3512]

Innovationen für multifunktionale Prothesenhand-Systeme

Themenblock Vorsitz: Schäfer, Michael (DE) | Pohlig GmbH

Themenblock Vorsitz: Kyberd, Peter , Dr. (CA) | University of New Brunswick

Zusammenfassung: Recent years has seen a rise in the number of multi-axis prosthetic hands being developed or marketed. The advantage of such devices is that they can perform a range of grasp patterns and so more closely match the natural hand in functionality and appearance. There is a long history of such devices, but often the means to control them has limited their utility. Recent advances in materials technology, has combined to allow lighter motors and batteries and compact enough electronics to make the idea of a practical multi-degree of freedom hands a reality. This symposium will bring together the results of a number of the latest projects to produce multi-axis hands, both commercial and experimental. This will allow the different technologies to be compared and contrasted and lessons over where such devices will take prosthetics over the next decade.

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| 1 / 5 | Historischer Rückblick zu multifunktionalen Handprothesen
<i>Multiple axis for a prosthetic hand creates flexibility in gripping. Barriers to use include the weight, reliability and price. The critical aspect is that the hand must be flexible and practical. Many solutions use flexible linkages so the grip is complaint. This paper reviews the choices made.</i> | Kyberd, Peter (CA) University of New Brunswick |
| 2 / 5 | Neue Entwicklungen des i-LIMB Systems | Gill, Hugh (UK) Touch Bionics |
| 3 / 5 | Weiterentwickelte Funktionalität des neuen Axon-Bus® Prothesensystems - die Prothesenhand "Michelangelo"
<i>Future arm prostheses will enable simultaneous control of multi degrees of freedom. For this a new technology platform is needed. The Axon-Bus® prostheses system is such a platform. Its first component, the Michelangelo Hand, comes to the market. Its new functions and benefits are discussed.</i> | van Vliet, Hans-Willem (AT) Otto Bock Healthcare Products GmbH |
| 4 / 5 | Vorstellung eines neuen mehrgelenkigen myoelektrischen Handsystems
<i>A new technology are presented; the motor driven modular VINCENT© Hand system, with allows the design of nearly anatomical partial hand prostheses and one of the worlds smallest and lightest multifunction hands within 6 motors. Both applications are discussed with his features and benefits.</i> | Schulz, Stefan (DE) VINCENT Systems Medical Technics GmbH |
| 5 / 5 | VA-Studien zur Optimierung des DEKA Arms | Resnik, Linda (US) Providence VA Medical Center/Brown University |

51. Mittwoch 12.05.2010 | 15:00 - 16:30 | Saal 2 | Symposium | Unterthema/Track: Verschiedenes

[3830]

Zukünftige Technologien

Themenblock Vorsitz: van der Linde, Harmen , PhD (NL) | University Hospital Nijmegen, the Netherlands

1 / 2	Kontakt mit biologischen Strukturen - die nächste Stufe der Rehabilitation	Dietl , Hans (AT) Otto Bock Healthcare Products GmbH
2 / 2	Der Zweck und die Bedeutung (Welche biomechanische Funktion wird ersetzt und warum)	Janusson , Hilmar Bragi (NL) Össur Europe BV

52. Mittwoch 12.05.2010 | 15:00 - 16:30 | Saal 3 | Symposium | Unterthema/Track: Amputation/Prothetik

[3157]

Ganganalyse zur Gleichgewichts-, Stabilitäts- und Sicherheitsbestimmung in der Prothetik

Themenblock Vorsitz: **Postema**, Klaas , Prof. Dr. (NL) | University Medical Center Groningen

Themenblock Vorsitz: **Wolf**, Sebastian , Dr.rer.nat. (DE) | Orthopädische Universitätsklinik Heidelberg

1 / 5	Lateralbalance beim Gehen und Stehen auf einer schmalen Kante	Postema , Klaas (NL) University Medical Center Groningen
2 / 5	Einfluss elektronischer Kniegelenke auf die Sicherheit und Dynamik Amputierter - eine klinisch-biomechanische Studie	Wühr , Juliane (DE) Klinik für Technische Orthopädie und Rehabilitation
3 / 5	Beurteilung der Zeit- und Belastungssymmetrie transfemorale und transtibiale Amputierter während des Gehens bei den Aktivitäten des täglichen Lebens <i>The symmetry of the stance time and of the vertical force peak at loading response was assessed on transfemoral and transtibial amputees by means of baropodometric insoles. Significant differences between groups were only found for the stance time symmetry.</i>	Cutti , Andrea (IT) INAIL Centro Protesi
4 / 5	Auswirkung elastischer Eigenschaften auf die Gangstabilität und -variabilität <i>Effects of prosthetic foot stiffness on swing duration variability (SDV) are reported. Subjects walked on an adjustable slope treadmill using a purpose-built prosthetic foot that allowed for stiffness modulation. Low dorsiflexion stiffness generally produced low SDV and was perceived as most stable.</i>	Major , Matthew (GB) University of Salford
5 / 5	Sicherheit transtibiale Amputierter beim Treppensteigen <i>According to 3D gait analysis results, TTAs show reduced values in safety indicators in stair descent which possibly explains their increased risk of falling. The ankle adaptation feature by a new microprocessor controlled ankle seems to improve safety in this condition.</i>	Wolf , Sebastian (DE) Orthopädische Universitätsklinik Heidelberg

53. Mittwoch 12.05.2010 | 15:00 - 16:30 | Saal 4 | Themenblock | Unterthema/Track: Orthetik

[3673]

Orthetik - Deformität der Wirbelsäule

Themenblock Vorsitz: **Würsching**, Andreas (HR) | Kuca Zdravlja d. o. o.

1 / 7	Frühzeitiges Night-Time-Bracing – eine Alternative für die Versorgung idiopathischer Skoliose <i>As a result of physical and psychological stress we often find very weak compliance for traditional Scoliosis-Full-Time-Bracing in comparison to Night-Time-Bracing. The investigation shows that Early Night-Time-Bracing (16-25° COBB) can effectively stop IAS progression and prevent Full-Time-Bracing.</i>	Selle , Andreas (DE) Orthopädie- & Rehathechnik Dresden GmbH
2 / 7	Eine 24monatige prospektive Studie zur Fortschritts-Überwachung der Rumpfsymmetrie bei Skoliose-Patienten während der Orthesenversorgung und Physiotherapie <i>The systematic 3-dimensional mirroring of trunc asymmetry in conservative adolescent idiopathic scoliosis (AIS) treatment with modern custom-made derotation braces (Cheneau-type) in the case of defined thoracic curvatures – A 24 month prospective study of surface optometry and radiological feature</i>	Matussek , Jan (DE) Asklepios Klinikum Bad Abbach
3 / 7	Neue morphologische Klassifikation der skoliootischen Deformität bei idiopathischer Skoliose basierend auf den Torsionsabnormitäten der Wirbelsäule <i>This article is about new morphological classification of idiopathic scoliosis based on the analysis of each vertebra and an intervertebral disk of the</i>	Gregory , Lein (RU) St.Petersburg Albrecht Rehabilitation Centre

deformed vertebral column. The given classification can be used for forming tactics of conservative treatment and orthotics.

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| 4 / 7 | Wirksamkeit der OMC-Orthese für die Versorgung ideopathischer Skoliose - Erfahrung in Taiwan
<i>We investigate the effect of Osaka Medical College (OMC) brace on 95 patients with idiopathic scoliosis in Taiwan. After a year follow up, we found that initial diagnosis of idiopathic scoliosis at younger age symbolizes poorer prognosis. In addition, more alternatives for scoliosis is recommended.</i> | Wong, Alice MK (TW) Chang Gung Memorial Hospital |
| 5 / 7 | Bewährte Standardschiene in der Skoliose-Versorgung
<i>Different bracing concepts are used today for the treatment of scoliosis. The use of the „Chêneau light“ brace and the Gensingen brace as described as the latest CAD CAM technology leads to correction effects above average when compared to the correction effects of other braces described earlier.</i> | Weiss, Hans-Rudolf (DE) Praxis Dr. med. Weiß |
| 6 / 7 | Vorläufige Beurteilung der Korrekturmöglichkeiten und Druckausübung von Rumpforthesen unter Verwendung von Scangeräten
<i>This article is about brace-scan device, which was made by Albrecht center's specialists. This device is intended for testing of correctional possibilities of a Sheno brace or others corrective braces directly on the patient.</i> | Maxim, Gusev (RU) St.Petersburg Albrecht Rehabilitation Centre |
| 7 / 7 | Carbonfaser-Materialien in Korsett-Konstruktionen
<i>The presentation gives an overview of characteristics and special features of new materials. Examples are shown, possible combinations between diagnosis and design are discussed and the when and where for appropriate use are presented. Individual specific handling techniques are not discussed.</i> | Würsching, Andreas (HR) Kuca Zdravlja d. o. o. |

54.
[3759]

Mittwoch 12.05.2010 | 15:00 - 16:30 | Saal 5 | Symposium | Unterthema/Track: Fuß und Schuh

Diabetischer Fuß - momentane Konzepte

Themenblock Vorsitz: **Böni, Thomas**, Dr. med. (CH) | Uniklinik Balgrist

Themenblock Vorsitz: **Bowker, John H.**, MD (US) | Miller School of Medicine, University of Miami

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| 1 / 6 | Beurteilung des Diabetischen Fußes
<i>The diabetic foot demands repetitive, complex decision making. A concise, complete, and time-saving evaluation of the diabetic foot is essential for correct and appropriate decision making. Based on pathophysiological concepts the lecture will give an algorithmic overview of the non-invasive evaluation of the diabetic foot with special emphasis on biomechanical impairments.</i> | Böni, Thomas (CH) Uniklinik Balgrist |
| 2 / 6 | Diabetisches Fußulcus
<i>The prevention of diabetic foot ulcers is based on the identification of patients with certain risk factors, the determination of their level of ulcer risk and the implementation of preventive measures, including focused education and provision of protective footwear.</i> | Bowker, John H. (US) Miller School of Medicine, University of Miami |
| 3 / 6 | Diabetische Fußinfektionen
<i>With proper wound care, prompt, appropriate surgery, focused antibiotic therapy and optimum control of metabolic disorders including hyperglycemia, ketosis and nutritional deficiencies, infection can be controlled and a functional foot salvaged in most cases.</i> | Bowker, John H. (US) Miller School of Medicine, University of Miami |
| 4 / 6 | Der Charcot-Fuß | Wetz, Hans-Henning (DE) Klinik und Poliklinik für TO und Rehabilitation |
| 5 / 6 | Kann biomechanisches Screening Prävention für den Charcot-Fuß sein?
<i>This paper outlines a hypothesis linking repetitive biomechanical strain in the functional joints of the foot to atrophic or hypertrophic deterioration. This hypothesis implies that biomechanical factors can allow identification of the foot at risk of Charcot deterioration to be recognised early.</i> | Munro, William (UK) Anatomical Concepts (UK) Ltd |
| 6 / 6 | Entlastung des diabetischen Fußes
<i>Diabetic foot ulcers due to internal or external pressure zones cause major problems in the treatment of those patients. As a result of the following infections a higher number of amputations occur out of these problems.</i> | Greitemann, Bernhard (DE) Klinik Münsterland der Deutschen Rentenversicherung Westfalen |

Therefore pressure release, pressure distribution in the treatment of ulcers or infections, even in the prevention of ulceration on the diabetic foot are of main importance. In the literature there are several techniques of pressure reduction described. International literature mainly deals with a treatment by total contact casting, there is evidence of effectiveness for this technique. Due to the fact that in German speaking countries there is traditionally a high reputation for orthopaedic shoe fitting and orthotic treatment there are different other approaches as for instance orthopaedic shoe fitting with insoles and rocker bottoms or orthotic treatment with pressure release orthosis. These techniques are discussed with a view on evidence in literature. In the presentation the different ad

55. Mittwoch 12.05.2010 | 15:00 - 16:30 | MZF 1/2 | Themenblock

[3746]

Open Forum 3

Themenblock Vorsitz: **Mallya**, Hortensia (TZ) | Kilimanjaro Christian Medical Centre

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| 1 / 6 | Implementation of Local Manufacturing for the Legs M1 Knee in the Developing World
<i>The authors have successfully developed and implemented the LEGS M1 polycentric knee . The M1 is designed to be an inexpensive, low maintenance knee option which helps improve patient gait while meeting the manufacturing, rehabilitation and cultural constraints of various international sites.</i> | Ayers , Stephen (US) LeTourneau University |
| 2 / 6 | Implementation of a New Polycentric Knee Technology in the Developing World
<i>The LEGS M1 Knee is a low-cost, polycentric knee unit which can be locally manufactured in the developing world. The knee has been transferred to 10 clinics in 4 different countries. The strategy used for dissemination of the M1 Knee technology to clinics in the developing world is reviewed.</i> | Ayers , Stephen (US) LeTourneau University |
| 3 / 6 | A Detailed Study on Disability in India with Respect to SAARC Nations: Guidelines for Prosthetics & Orthotics Services through CBR
<i>The aspect of generating measures in P&O management for rehabilitation of locomotor disabled in India has been affected by dearth of resources, trained personnel & weak linkage effects. As no country-specific model of CBR in P&O is available, we would present our own Indian model for rehabilitation.</i> | Datta , Tarit (IN) National Institute of the Orthopaedically Handicapped
Ghosh , Dipanwita (IN) Hiralal Mazumdar Memorial College for Women |
| 4 / 6 | The Challenge of Prosthetics and Orthotics (P&O) Services and Community Based Rehabilitation (CBR) in Rural Tanzania
<i>This presentation provides an overview about the challenges and structure of CBR services in Tanzania related to P&O services and the mid-level rehabilitation workers in the Maasai villages of the rural area in northern Tanzania.</i> | Mallya , Hortensia (TZ) Kilimanjaro Christian Medical Centre |
| 5 / 6 | Implementation of Sustainable and Appropriate Quality P&O Services in Low and Middle Income Countries
<i>Illustrated by the successful cooperation between Johanniter International and the Orthopaedic Centre TheraNova in Oradea, Romania, we would like to emphasise our principal guidelines for planning and implementing sustainable and appropriate quality P&O services in low and middle income countries.</i> | Baeriswyl , Marcel (DE) Johanniter-Unfall-Hilfe |
| 6 / 6 | Case Study: Testing and Evaluating the Plastic Soda Bottle Transradial Socket Prosthesis
<i>The project involved constructing and testing a prototype of a new, low cost, trans-radial prosthetic technology based upon a innovative design by Dr. Yeongchi Wu and his staff at the Center for International Rehabilitation in Chicago, USA. Productive outcomes resulted and additional research, development and testing are recommended.</i> | Radocy , Robert (US) TRS Inc. |

56. Mittwoch 12.05.2010 | 17:00 - 18:30 | Saal 1 | Themenblock | Unterthema/Track: Amputation/Prothetik

[3660]

Beinprothetik - MRI Schaft

Themenblock Vorsitz: **Klasen**, Sebastian , Dipl.Ing.(FH) (DE) | Fraunhofer IPA

Themenblock Vorsitz: **McHugh**, Brendan , Dr (UK) | University of Strathclyde

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| 1 / 6 | Beinprothese I - Herstellen eines anatomisch korrekten Stumpfmodells
<i>Magnetic Resonance Imaging (MRI) data are obtained for the residual limb. In a postsegmentation step of the MRI data, three-dimensional solid models of major tissues of the residual limb are constructed and optimized for enhanced performance of numerical analysis and simulation.</i> | Tawfik, Samer A. (US) School of Aerospace Engineering |
| 2 / 6 | Messfehler bei In-Vivo-Messungen der Transtibialstümpfe - Vergleich von vier verschiedenen Methoden
<i>In our study we investigated the reliability of 4 methods to measure stump volume on in-vivo stumps. Calculated repeatability coefficients (RCs) vary from 129 ml until 158 ml and are substantially higher compared to measurements that were performed on stump-models (1).</i> | Bolt, Arjen (NL) |
| 3 / 6 | Untersuchung zur Nutzung von CAD-Programmen für die Prothetik in Großbritannien
<i>A survey was conducted to investigate the use of CAD in prosthetic manufacture in the UK. The survey employed a questionnaire designed to determine the methods used, frequency of use and the perceptions of clinical staff.</i> | McHugh, Brendan (UK) University of Strathclyde |
| 4 / 6 | Kinematische Vorstudie mittels Ultraschall zur Tibia in einem transtibialen Schaft während des Gehens
<i>The motion of the residual-tibia within a trans-tibial socket was examined so far only by X-ray. In this pre-study now the motion of the residual tibia is to be described during gait using ultrasound data. The results of measurement raised here are to adapt a better socket fit individually.</i> | Klasen, Sebastian (DE) Fraunhofer IPA |
| 5 / 6 | Anpassen einer TTm pop® und TFm pop® Silikonhülle an 211 Beinamputierten. Ergebnisse einer französischen Multizenter-Studie
<i>TTm pop® and TFm pop® liners provides stability of residual limb(amputation stump)in 86% of cases, even when cicatrisation is not yet complete. This technique requires appropriate training to use it correctly, as well as an understanding of the few contraindications that absolutely must be observed.</i> | Ehrler, Solange (FR) Centre de Réadaptation Fonctionnelle Clemenceau |
| 6 / 6 | Erste statistische Erhebungen bezüglich verstärkten oder passiven Vakuum-Schaftsystemen für ungeheilte Stümpfe von transfemorale Amputierten
<i>This study compares two prosthetic systems to generate vacuum suspension in trans-tibial amputees with unhealed wounds on the stump in terms of tend to heal the stump lesions, time to prosthesis fitting and start of gait rehabilitation, and mobility.</i> | Traballesi, Marco (IT) Fondazione Santa Lucia |

57. [3649] Mittwoch 12.05.2010 | 17:00 - 18:30 | Saal 2 |  Symposium | Unterthema/Track: Rückenprobleme

Moderne Behandlungskonzepte bei chronischem LWS-Schmerz

Themenblock Vorsitz: Greitemann, Bernhard, Prof. Dr. med. Dipl. Oec. (DE) | Klinik Münsterland der Deutschen Rentenversicherung Westfalen

Themenblock Vorsitz: Kladny, Bernd, Prof. Dr. (DE) | m&i-Fachklinik Herzogenaurach

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| 1 / 5 | Chronische LWS-Schmerzen - Risikofaktoren, Differentialdiagnosen und Behandlungsstrategien | Casser, Hans-Raimund (DE) DRK Schmerz-Zentrum |
| 2 / 5 | Beste Empfehlungen zu Zielen, Inhalten und Methoden für die Rehabilitation chronischer LWS-Schmerzen - systematische Übersichtsarbeit | Hofmann, Jana (DE) Institut für Sportwissenschaft und Sport |
| 3 / 5 | Multidisziplinärer Teamansatz zur Rehabilitation von Patienten mit LWS-Schmerzen | Greitemann, Bernhard (DE) Klinik Münsterland der Deutschen Rentenversicherung Westfalen |
| 4 / 5 | Die Rolle der Orthetik im chronischen Rückenschmerz
<i>The presentation at hand will therefore provide an overview of the topic in presenting a mix of descriptive spinal anatomy of the relevant spinal segments, the effects of spinal patho-mechanics and will outline corrective effects and limitations of biomechanic correction provided through the means of spinal orthoses.</i> | Kaphingst, Wieland (US) Bauerfeind Inc. USA and Bauerfeind AG |
| 5 / 5 | Altersabhängige Diagnosen von chronischen LWS-Schmerzen aus orthopädietechnischer Sicht | Landauer, Franz (AT) Universitätsklinik für Orthopädie |

58. Mittwoch 12.05.2010 | 17:00 - 18:30 | Saal 3 | Themenblock | Unterthema/Track: Amputation/Prothetik
[3661] **Beinprothetik - Hüfte**

Themenblock Vorsitz: **Ludwigs**, Eva , Dipl.- Ing. (FH) (DE) | Otto Bock HealthCare GmbH

Themenblock Vorsitz: **Raggi**, Michele , B.Sc. (IT) | INAIL Centro Protesi

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| 1 / 4 | Biomechanische Aspekte des Helix3D Hüftgelenksystems
<i>Kinematics and kinetics of 6 hip disarticulation patients with the Helix and 7E7 Hip Joints were analysed during gait. The results show that the Helix offers functional advantages: A more symmetrical gait pattern results from knee and hip characteristics which are significantly more physiological.</i> | Ludwigs , Eva (DE) Otto Bock HealthCare GmbH |
| 2 / 4 | Ganganalyse zu neu entwickelten Prothesen nach einer Hüftexartikulation - Rotationsachse des Hüftgelenkes an der Seite des Schaftes
<i>We developed a new hip disarticulation prosthesis (HDP) of which hip joint is attached on the side of socket. In order to evaluate the new HDP, walking experiment was performed on two subjects. Gait was clearly improved especially in motion of pelvis and knee joint of prosthetic side.</i> | Naito , Hisashi (JP) Osaka University |
| 3 / 4 | Verwendung eines Bewegungsanalyse-Protokolls für die Beurteilung von hochwertigen Prothesen-Passteilen - eine Fallstudie des Otto Bock Helix3D
<i>The aim of this work was to assess the effect of the novel Otto-Bock (D) Helix3D hip joint, on the gait of a hip-disarticulated amputee, compared to the standard Otto-Bock 7E7. Results showed multiple improvements of gait with the Helix3D, including a lower net metabolic cost and improved symmetry.</i> | Raggi , Michele (IT) INAIL Centro Protesi |
| 4 / 4 | Eine Einstellungsmethode der Exartikulation und Hemipelvektomie-Prothesen - eine biomechanische Beurteilung
<i>By determining the load balance point on the prosthetic side and the individual pelvic tilt, a verified, functional sagittal plane alignment of HD style prostheses is provided and only plantar flexion needs to be adapted during static alignment optimisation using the L.A.S.A.R. Posture.</i> | Bellmann , Malte (DE) Otto Bock HealthCare GmbH |

59. Mittwoch 12.05.2010 | 17:00 - 18:30 | Saal 5 |  Symposium | Unterthema/Track: Verschiedenes
[3583]

ICF (Internationale Klassifikation der Funktionsfähigkeit, Behinderung und Gesundheit)

Themenblock Vorsitz: **Burger**, Helena (SI) | Institute for Rehabilitation, Republic of Slovenia

Themenblock Vorsitz: **Kohler**, Friedbert , Associate Professor (AU) | Sydney South West Area Health Service

Zusammenfassung: *This symposium will give an understanding of the ICF, its current and future clinical applicability and potential use.*

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| 1 / 5 | Überblick zur ICF
<i>The International Classification of Functioning, Disability and Health (ICF) is the basis for the conceptualization of the rehabilitation strategy and is of relevance for the curative, preventive and supportive health strategies. The ICF and the ICF-based conceptualization of the rehabilitation strategy are again the basis for the organization of human functioning and rehabilitation research in distinct scientific fields and the development of research capacity with respect to academic training programs, interdisciplinary university centres and national/international collaboration networks. Next to these conceptual developments, there is now a wide range of activities throughout the world of rehabilitation in the development of practice tools and applications of the ICF. First of all, the ICF can serve as reference for the comparison, selection and further development of existing measures of human functioning. The mapping of the world of measures can now rely on established linkage rules. The development of</i> | Rauch , Alexandra (CH) Schweizer Paraplegiker-Forschung |
| 2 / 5 | Entwicklung von ICF Core Sets für Menschen nach einer Amputation | Kohler , Friedbert (AU) Sydney South West Area Health Service |

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| 3 / 5 | Die ICF in der Prothetik und Orthetik
<i>Limb amputation and other health conditions due to which persons need orthoses results in significant alterations of Body Functions and Body structures. These people also experience a wide range of activity limitations and participation restrictions. Their problems also depend on the environment.</i> | Burger , Helena (SI) Institute for Rehabilitation, Republic of Slovenia |
| 4 / 5 | Zielparameter basierend auf der ICF | Rauch , Alexandra (CH) Schweizer Paraplegiker-Forschung |
| 5 / 5 | Anwendung der ICF in der nicht industrialisierten Welt
<i>The International Classification of Functioning, Disability and Health (ICF) was approved by the World Health Organization in May 2001 and has been introduced into China for 8 years. To investigate the literature on use of the ICF in China, with regard to type of use, aims and implementation problems.</i> | Zhang , Xia (CN) |

60. Mittwoch 12.05.2010 | 17:00 - 18:30 | Saal 4 | Themenblock | Unterthema/Track: Fuß und Schuh
[3678]

Fuß & Schuh - Deformitäten

Themenblock Vorsitz: **Matussek**, Jan , Dr. (DE) | Asklepios Klinikum Bad Abbach

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| 1 / 6 | Die Auswirkung der Sohlendicke auf den plantaren Druck innerhalb des Schuhs und den wahrgenommenen Komfort für den Patienten mit Metatarsalgie
<i>Metatarsalgia is a common problem causing forefoot pain. The sole thickness is an important characteristic of a shoe especially for the patient with metatarsalgia of biomechanical cause. The effect of shoe sole thickness on in-shoe plantar pressure and the perceived shoe comfort will be reported.</i> | Chan , Wilson Y K (HK) The Hong Kong Polytechnic University |
| 2 / 6 | Wirkung der keilförmigen Absätze auf die Druckverteilung im Vorfußbereich
<i>We measured pressure in forefoot with wedge high heel using the F-scan system. Fifteen female students participated in the study, wearing shoes with no high heel, 2 cm and 5 cm wedge high heel. We found increase in pressures under the big toe on both sides and under the first methatarsal head.</i> | Štajer , Tomaž (SI) Institute for Rehabilitation, Republic of Slovenia |
| 3 / 6 | Eine dynamische pedobarographische prospektive Studie indirekter kinematischer Veränderungen des Abrollens bei einer Valgus-Fehlstellung des Fußes vor/nach Operation einer Zerebralparese
<i>Pre and post-surgical evaluation of indirect kinematics with dynamic pedobarography helps to finetune surgical interventions in CP valgus feet.</i> | Matussek , Jan (DE) Asklepios Klinikum Bad Abbach |
| 4 / 6 | Entwicklung des medialen Fußgewölbes bei adipösen Kindern mit flexiblen Plattfuß bei einer Versorgung mit Einlagen
<i>A longitudinal study was launched to compare the rate of development of medial longitudinal arch (MLA) for obese children, with flexible flatfoot. Results showed that medial longitudinal arch has a slow rate of development for obese children, compared with normal control group.</i> | Law , Sam YC (HK) North District Hospital |
| 5 / 6 | Behandlung des Innenrotationsganges mit Torqueel-Einlagen nach Pomarino®
<i>Im PTZ wurde der herkömmliche zur Therapie eingesetzte Torqueel-Absatz durch „Rotations-Korrektur einlagen nach Pomarino®“ ersetzt. Die Ergebnisse zu Therapieverlauf, -dauer und -trend zeigen, dass den IR-Gängern mit dem neuartigen Hilfsmittel eine optimale Behandlung zur Verfügung steht.</i> | Pomarino , David (DE) Physiotherapiezentrum |
| 6 / 6 | Wie analysieren wir zyklusbedingte Bodenreaktionskräfte bei einer Einlagen-Verordnung für eine strukturelle Beinlängendifferenz?
<i>This study aims were to compare the GRF patterns and gait asymmetry in three types of insole for structural LLD patients and compare with barefoot walking</i> | Yazdani , Meria (IR) RehamedAria |

61. Mittwoch 12.05.2010 | 17:00 - 18:30 | MZF 1/2 | Themenblock
[3747]

Open Forum 4

Themenblock Vorsitz: **Franke**, Jens (DE) | Bundesinnungsverband für Orthopädie-Technik

Themenblock Vorsitz: **Yadav**, Shiv L. , Dr (IN) | All India Institute of Medical Sciences

1 / 7	Transfemoral and Transtibial Prosthesis: A Study on the Feasibility of Design Modification in Rural Setting in India <i>In this paper we are going to discuss the outcome of questionnaire based survey on rejection/acceptability of the present prosthetic design used by them and with suggested modification contributed in improvement of day to day activities and participation in real life situations i.e. work or leisure.</i>	Yadav, Shiv L. (IN) All India Institute of Medical Sciences
2 / 7	Users Satisfaction with Orthoses and Prostheses: An Iranian Experience <i>For the first time, the evaluation of consumers satisfaction with orthoses / prostheses performed in Iran.</i>	Bahramian, Hooman (IR) Ortopede Faneer Andamkar Shargh
3 / 7	The Effect of Electrical Passive Pedal Cycling on the Joints' Range of Motion of Lower Limbs in Iranian Spinal Cord Injured Veterans <i>The purpose of this clinical trial was to evaluate the effects of electrical passive cycling usage on lower limb's joints' range of motion amongst spinal cord injured veterans. Findings suggest that it can causes improving hip, knee and ankle range of motions according to the intensity of exercise.</i>	Shojaei, Hadi (IR) Janbazan medical and engineering research center
4 / 7	Impact of Wheelchair Service Provision for Wheelchair Users Living in Urban and Semi Urban Slum - A study <i>People with a disability have the right to good quality assistive devices and equipment to assist them to increase the level of independence in daily life. In low income countries, professional wheelchair service provision is an area of concern due to many challenges. In this paper, the purpose o</i>	Ghosh, Ritu (IN) Mobility India
5 / 7	A Historical Review of P&O and allied P&O profession in Japan ; the Kobe Model <i>The education of the P&O is spreading to all over the world to all over Japan. But there aren't enough discussions about allied P&O professions such like an orthopedic shoe technologist and a technical aid technologist. Kobe College has developed a P&O course in 1997, and then a course for orthopedic</i>	Uchida, Mitsuhiko (JP) Kobe College of Medical Welfare
6 / 7	Limb Amputation and Limb Prosthetic Repair in West Siberia: A Population-based Study <i>We performed an analysis of the number and outcomes of major amputations for vascular disease or complications of diabetes mellitus and of the outcomes of subsequent limb prosthetic repair in the population of one of the regions of West Siberia.</i>	Vasilchenko, Elena (RU) Federal Centre for medical and social evaluation and rehabilitation of people with disabilities
7 / 7	Challenges Faced by Prosthetist in the Management of Trans Tibial Amputee, Prosthetist Perspective <i>This study was conducted in PIPOS (Pakistan Institute of Prosthetic and Orthotic Sciences Peshawar Pakistan) in 2008.</i>	Aziz, Ahmad (PK) PIPOS

62. Donnerstag 13.05.2010 | 08:00 - 09:15 | Saal 1 | Basic Instructional Course | Unterthema/Track: Amputation/Prothetik

Körperliche Betätigung, Übung und Sport: Hoher Standard in der prothetischen Rehabilitation

Themenblock Vorsitz: **Sexton, Sandra (UK)** | University of Strathclyde

1 / 5	Motivationen und Barrieren zur Teilnahme an körperlichen Aktivitäten und Übungen	Deans, Sarah (UK) University of Strathclyde
2 / 5	Erhöhung athletischer Leistungen durch Maximierung prothetischer Fähigkeiten	Gailey, Robert (US) University of Miami Miller School of Medicine
3 / 5	Die Rolle des Fitnesstrainings in der prothetischen Rehabilitation	Hirons, Carolyn (GB) Pace Rehabilitation Limited
4 / 5	Prothetische Betrachtungen zur Verbesserung der athletischen Leistung	Harsch, Peter (US) Naval Medical Centre
5 / 5	Überblick zu zwei Übungs-Meisterklassen für Prothesenträger aus dem Vereinigten Königreich	Deans, Sarah (UK) University of Strathclyde Sexton, Sandra (UK) University of Strathclyde

63.
[3739]

Donnerstag 13.05.2010 | 08:00 - 09:15 | Saal 2 |  Basic Instructional Course | Unterthema/Track: Ausbildung
E-Learning - Anwendungen für die orthopädietechnische Versorgung

Themenblock Vorsitz: **Lemaire**, Edward (CA) | The Ottawa Hospital Rehabilitation Centre

Zusammenfassung: *This e-Learning instructional course will be provided by the ISPO International e-Learning Working Group and will cover information and examples for practical applications for three learning aspects: 1) e-Learning for Students and Continuing Education 2) Using Desktop Conferencing for Mentoring and Peer-to-Peer learning 3) Web resources for continuing education The participants will leave this course with an understanding of the currently available resources for e-Learning in the prosthetics and orthotics field, an expanded perception of how e-Learning could be used for continuous learning in their practice, data security considerations when using e-Learning in a peer-to-peer setting, and the future direction for e-Learning within ISPO. Participants will also become knowledgeable about the various contacts and institutions that can be approached for more advanced information on these topics.*

1 / 3 **E-Learning Ressourcen und -Chancen für die Orthopädietechnik-Ausbildung**
This section of the Instructional Course will present current and future e-Learning resources and opportunities for course-based learning and new practitioner education. The focus will be on e-Learning used by education institutions for undergraduate students and the support of those currently in the field who require ongoing education at an ever-increasing level.

Blocka, Daniel (CA) | International Society for Prosthetics & Orthotics
Wong, Man-Sang (HK) | The Hong Kong Polytechnic University


2 / 3 **Desktop Conferencing und Peer-to-Peer Lernen für die Betreuung**
This section will present methods for using accessible and low-cost multimedia communication technology for continuous learning. Topics will include available technologies for internet-based audio-visual-data communication, peer-to-peer learning applications, and information security considerations.

Lemaire, Edward (CA) | The Ottawa Hospital Rehabilitation Centre
Schlierf, Christian (DE) | Human Study e.V.

3 / 3 **Webressourcen für die Weiterbildung**
This section will present prosthetic and orthotic related learning opportunities and consideration for web-based learning. This includes the full range from information web sites to interactive web-based learning.

Pryor, Wesley (IN) | Handicap International
Boone, David (US) | OrthoCare Innovations

64.
[3507]

Donnerstag 13.05.2010 | 08:00 - 09:15 | Saal 3 |  Advanced Instructional Course | Unterthema/Track: Amputation/Prothetik

Prothesen für Teilamputationen der Hand - funktionelle Anforderungen und konstruktive Innovationen

Themenblock Vorsitz: **Schäfer**, Michael (DE) | Pohlig GmbH

Zusammenfassung: *Die prothetische Versorgung von partiellen Handamputationen konnte durch die Einführung moderner Schaftbettungstechniken und neuartiger Konstruktionswerkstoffe in den vergangenen Jahren erhebliche Fortschritte in der Akzeptanz und Funktionsverbesserung erzielen. Der folgende Advanced Instructional Course soll zunächst einen Überblick über moderne Versorgungsmethoden geben. Ferner sollen erstmals zwei unterschiedliche neuartige Partialhand-Prothesensysteme mit aktiver, myoelektrischer Steuerungsfunktion vorgestellt werden. Die Referenten sind auf diesem Versorgungsgebiet der Partialhand-Prothetik hoch spezialisiert und verfügen über einen großen Erfahrungsschatz in dieser anspruchsvollen Versorgungstechnik. Es sollen Vor- und Nachteile aller Prothesensysteme kritisch beleuchtet und in der anschließenden Diskussion hinterfragt werden.*

1 / 4 **Einführung und Überblick**
Through the use of modern materials, i. e. silicone(1), the quality of the stump embedding and the resulting options of a functional fitting have been significantly improved. The following lecture shall, besides an introducing overview, show the possibilities of applying and integrating new mechanical joint constructions as well as finger systems driven by an external power.

Schäfer, Michael (DE) | Pohlig GmbH

2 / 4 **Rapid Prototyping zur Herstellung von Silikonhandprothesen bei Teilamputationen der Hand**
Today's technological procedures involved in the fabrication of prostheses following partial amputation of the hand require a lot of time and modelling by hand. Using the Rapid Prototyping technology enables the making of a mirror image of the healthy hand and reduces the time necessary to model a prosthesis.

Maver, Tomaz (SI) | University Rehabilitation Institute, Republic of Slovenia

3 / 4 **Erfahrungen mit ProDigits-Fingerprothesen**
ProDigits by Touch Bionics is the world's first commercially available powered bionic finger solution for patients with missing fingers (partial hand).

Gill, Hugh (UK) | Touch Bionics

This presentation paper will address the experience garnered through over 35 patient fittings.

4 / 4 **Anpassung der anatomischen Schaftzwischenlage bei Teilamputationen der Hand**

Lake, Chris (US) | Advanced Arm Dynamics

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[3478]

Donnerstag 13.05.2010 | 08:00 - 09:15 | Saal 4 | Advanced Instructional Course | Unterthema/Track: Orthetik

Orthetische Standphasensicherung

Themenblock Vorsitz: Nolle, Frans , Prof. Dr. (NL) | Academic Medical Center University of Amsterdam

Themenblock Vorsitz: Kaufman, Kenton , Dr. (US) | Mayo Clinic

1 / 4 **Standphasensichernde Orthesen - Forschungsergebnisse**

Kaufman, Kenton (US) | Mayo Clinic

2 / 4 **Biomechanische Prinzipien und funktionale Defizite**

Campbell, James (US) | Becker Orthopedic Company

3 / 4 **Standphasensichernde Orthesen - Klinische Anwendungen**

Michael, John (US) | CPO Services, Inc.

4 / 4 **Standphasensichernde KAFO besser als eine gesperrte?**

Nolle, Frans (NL) | Academic Medical Center University of Amsterdam

66.
[3173]

Donnerstag 13.05.2010 | 08:00 - 09:15 | Saal 5 | Advanced Instructional Course | Unterthema/Track: Rückenprobleme

Spinale Muskelatrophie (SMA)

Themenblock Vorsitz: Fajak, Albert , Dr. med. (DE) | Orthopädische Universitätsklinik der Friedrich-Alexander-Universität Erlangen-Nürnberg

Themenblock Vorsitz: Forst, Raimund , Prof. Dr. (DE) | Orthopädische Universitätsklinik der FAU Erlangen-Nürnberg

Zusammenfassung: *The spinal muscular atrophy (SMA) is a genetically and clinically heterogeneous group of hereditary diseases mostly with symmetrical weakness and atrophy of the skeletal muscles. Though up to now no causal treatment for SMA is available, their disease process and above all the quality of life of these patients can be decisively improved by established medical procedures, specialist provision of orthoses and assistive devices. The fundamental orthopaedic problems for SMA patients are contractures in the lower and upper extremities and sitting instability caused by progressive scoliosis with increasing pelvic obliquity. The orthopaedic treatment includes conservative methods, e.g. physiotherapy, orthotic devices and aids as well as surgical spine stabilisation and correction of the contractures of the lower extremities. Very important are the early prophylaxis and treatment of the respiratory insufficiency by regularly respiratory therapy to learn breath and cough techniques and self-exercises as well as th*

1 / 4 **Einführung, Klassifizierung, Diagnose und Therapie der spinalen Muskelatrophie (SMA)**

Hirsch, Almut (DE) | Sozialpädiatrisches Zentrum (SPZ), Kinder- und Jugendklinik, Universitätsklinik Erlangen

2 / 4 **Orthopädische Probleme und orthopädische Versorgung von Patienten mit spinaler Muskelatrophie (SMA)**

Fajak, Albert (DE) | Orthopädische Universitätsklinik der Friedrich-Alexander-Universität Erlangen-Nürnberg

3 / 4 **Orthesen und orthopädietechnische Hilfsmittel für spinale Muskelatrophie (SMA)**

Fuchs, Markus (DE) | Völk-Orthopädie

4 / 4 **Behandlung der Ateminsuffizienz bei spinaler Muskelatrophie (SMA)**

Wollinsky, Kurt Hannes (DE) | Orthopädische und Neurologische Klinik der Universität Ulm

67.
[3787]

Donnerstag 13.05.2010 | 09:30 - 10:00 | Saal 1 | Keynote-Vortrag

Orthetische Versorgung von Skoliosen bei Jugendlichen – Vergangenheit, Gegenwart und Zukunft

Keynote Redner: Wong, Man-Sang , PhD (HK) | The Hong Kong Polytechnic University

Zusammenfassung: *Bei Skoliose handelt es sich um eine dreidimensionale Verformung der Wirbelsäule, üblicherweise mit einer lateralen Krümmung der Wirbelsäule und vertebraler Rotation. Da die Ursache hierfür*

zumeist unbekannt ist und die Verformung im Jugendalter festgestellt wird, wird die Erkrankung als AIS (Adoleszente Idiopathische Skoliose) bezeichnet. Bei leichten Fällen empfiehlt sich eine regelmäßige Beobachtung, bei schweren Fällen ein chirurgischer Eingriff. Die konventionelle Behandlungsmethode bei Patienten mit moderater AIS ist das Tragen von Rumpforthesen während der Pubertät, um so die Wirbelsäule mechanisch zu stützen und eine weitere Verformung zu unterbinden. Dieser Vortrag gibt einen Überblick über die orthetische Versorgung bei AIS, angefangen bei den Maßnahmen der Vergangenheit bis hin zu zukünftigen Möglichkeiten.

68. [3614] Donnerstag 13.05.2010 | 10:30 - 12:00 | Saal 1 | Symposium | Unterthema/Track: Amputation/Prothetik
- Technik der Osseointegration - chirurgische Verfahren, postoperative Versorgung**
- Themenblock Vorsitz: **Branemark**, Rickard , MD PhD (SE) | Sahlgrenska University Hospital
- Themenblock Vorsitz: **Wetz**, Hans-Henning , Prof. Dr. (DE) | Klinik und Poliklinik für TO und Rehabilitation
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- 1 / 5 **Entwicklung operativer Verfahren und post-operative Versorgung von transfemoral Amputierten (TFA) mit Osseointegration (OI) in Schweden** Berlin, Örjan (SE) | Sahlgrenska University Hospital
The development of TFA-OI procedures has been a stepwise introduction from custom-made design to standardized equipment, surgical technique and postoperative care and rehabilitation.
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- 2 / 5 **Endo-Exo-Prothesen - Rehabilitationsverbesserung für Amputierte - Der Lübecker Ansatz** Aschoff, Horst-Heinrich (DE) | Klinik für Plastische, Hand- und Rekonstruktive Chirurgie
Endo-Exo-Prothesen are all about the improvement of gait following amputation upon an intramedullar, osseointegrated, percutaneous conducted implant as a hard point for the Exoprosthesis. The so called Endo-Exo-Femoral-Prosthesis (EEFP) is for above knee amputees (AKA), for below knee amputees (BKA) an Endo-Exo-Tibial-Prosthesis is available. It will be reported about 39 EEFP-patie
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- 3 / 5 **Der Stanmore Ansatz** Blunn, Gordon (UK) | University College London, Royal National Orthopaedic Hospital
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- 4 / 5 **Der Stanmore-Ansatz** Briggs, Tim (UK) | Royal National Orthopaedic Hospital
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- 5 / 5 **Wo sind die Grenzen - chirurgische Behandlung und Erfahrungsberichte aus Schweden** Branemark, Rickard (SE) | Sahlgrenska University Hospital
When can bone anchored amputation prostheses be considered? This presentation will report on some cases illustrating possibilities and limitations.

69. [3204] Donnerstag 13.05.2010 | 10:30 - 12:00 | Saal 2 | Symposium | Unterthema/Track: Kinder
- Das Kind mit einer infantilen Cerebralparese in der Hilfsmittelversorgung - Wie bekommt man ein vollständiges Bild?**
- Themenblock Vorsitz: **Kraus de Camargo**, Olaf , Dr. med. (CA) | McMaster University, McMaster Childrens Hospital, McMaster Child Health Research Institute
- Zusammenfassung: *Kinder mit einer infantilen Cerebralparese sind in der Hilfsmittelversorgung komplex. Es gilt dabei, anatomische und physiologische Gegebenheiten mit den Ansprüchen an kindgerechte Aktivitäten und Teilhabe zu verbinden. Dies erfordert eine gute interdisziplinäre Zusammenarbeit und häufig individuelle und kreative Lösungen. In diesem Symposium soll gezeigt werden, wie die ICF-CY (Version fuer Kinder und Jugendliche) genutzt werden kann, um die funktionale Gesundheit von Kindern mit einer Cerebralparese zu erfassen und daraus Empfehlungen fuer die Hilfsmittelversorgung abzuleiten.*
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- 1 / 4 **Das nicht gehfähige Kind, Versorgungsmöglichkeiten mit Rollstuhl und individueller Sitzschale** Stockmann, Norbert (DE) | Bundesfachschule für Orthopädie-Technik
According to international and national legal norms an individual right to participate in community life as well as to ensure personal mobility is accepted. CP-children, especially when they are non ambulant, are greatly aggrieved in this. It will be shown in which way concerned children benefit from mobility aids.
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- 2 / 4 **Operative und konservative Behandlungsmethoden bei Kindern mit ICP** Braatz, Frank (DE) | Orthopädische Universitätsklinik Heidelberg
For the management of children with cerebral palsy (CP) a team is necessary since there are different treatment aspects during the development of the child. With age there are both operative and conservative treatment options. For the conservative treatment, orthoses,

Botulinum-toxin and casts are used. The surgical options vary with the degree of involvement. In mild cases only isolated calf muscle lengthenings are needed whereas in more severe cases multi-level soft tissue procedures often including bony procedures are indicated. In every case an interdisciplinary postoperative management is required. The gross motor function classification scale (GMFCS) hereby serves as a reliable tool for treatment planning and control.

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| 3 / 4 | Das Modell der Internationalen Klassifikation der Funktionsfähigkeit, Behinderung und Gesundheit – Bedeutung für die Hilfsmittelversorgung | Kraus de Camargo, Olaf (CA)
McMaster University, McMaster
Childrens Hospital, McMaster
Child Health Research Institute |
| <i>This presentation will demonstrate how the framework of the ICF-CY allows to describe the functioning and the needs of children with cerebral palsy and how this can be used to communicate with the different stakeholders in order to provide the best fit between patients/family needs and the assistive devices that are chosen.</i> | | |
| 4 / 4 | Orthesenkonzepte bei Kindern mit ICP: Von der konventionellen bis zur Softorthetik | Weichold, Claudia (DE)
 Orthopädische Uniklinik
Heidelberg |
| <i>There are many appearances of Patients with Cerebral Palsy (CP). Therefore a wide bandwidth of orthosis is needed that fits to the different requirements. An overview of these concepts will be shown by taking the issues into account that have to be included into the design of the orthotic treatment.</i> | | |
| 70. Donnerstag 13.05.2010 10:30 - 12:00 Saal 3 Themenblock Unterthema/Track: Amputation/Prothetik | | |
| [3662] | Beinprothetik - Schaftechnologie | |
| Themenblock Vorsitz: Günther, Michael , Dipl.-Ing. (FH) (DE) Günther Bionics GmbH | | |
| 1 / 6 | CIR TF Casting System für die Herstellung von transfemorale Schäften | Wu, Yeongchi (US) Northwestern
University |
| <i>This paper presents a plaster-less casting system for forming of transfemoral sockets. With a polystyrene-beads-filled casting bag and adjustable vacuum pressure, one can rapidly form the negative mold for making positive sand model, minimal modification and vacuum forming the transfemoral socket.</i> | | |
| 2 / 6 | Ganganalytische, funktionale Analyse und Begutachtung von rigiden und flexiblen transfemorale Schaftsystemen | Schmidt, Arno (DE) Otto Bock
HealthCare GmbH |
| <i>To review the functionality of socket systems by means of gait analysis to verify patient experience with objective figures is scientifically virgin soil. The described study shows measurements that allow a comparison of different socket systems.</i> | | |
| 3 / 6 | Der Milwaukee-Schaft - wissenschaftliche Ergebnisse als Grundlage für ein verbessertes transfemorale Schaftdesign | Günther, Michael (DE) Günther
Bionics GmbH |
| <i>Experimental assessment of isometric hip moment in amputees, as well as biplanar fluoroscopy studies provided the basis for several conceptual modifications of current trans-femoral socket designs. The developing of the theoretical framework was followed by a first practical trial of the new socket.</i> | | |
| 4 / 6 | Verbesserte Technologien und Methoden für maßangefertigte transfemorale Prothesenschäfte. | Hamoui, Giovanni (IT) Centro
Protesi INAIL |
| <i>INAIL Centro Protesi, as partner of European Project Custom-Fit, in order to improve transfemoral socket design and manufacturing, developed and tested with good results a productive process based on 3D modelling and RM manufacturing.</i> | | |
| 5 / 6 | Fortschrittliche Methode für die Charakterisierung biomechanischer Eigenschaften des lebenden Gewebes eines Stumpfes | Kapatos, Christos (UK)
University of Strathclyde |
| <i>The P&O group of the University of Strathclyde, have developed a system which takes in account the external and internal geometry of a residual limb, the biomechanical properties of each tissue layer and the boundary conditions of the prosthesis to produce a functional prosthetic socket.</i> | | |
| 6 / 6 | Computergestützte Herstellung eines Carbonfaser-Prothesenschäftes | Kondor, Shayne (US) Georgia
Institute of Technology |
| <i>A prosthetic limb socket was fabricated using a process solely based on computer aided design/manufacturing. The socket was designed from MRI data and fabricated using automated milling and fiber braiding devices. It was tested on a trans-tibial amputee, exhibiting good fit and excellent strength.</i> | | |

71.
[3637]

Donnerstag 13.05.2010 | 10:30 - 12:00 | Saal 4 | Symposium | Unterthema/Track: Ausbildung

Biomechanik bei OT-Schulungen - Gegebenheiten und Themen

Themenblock Vorsitz: **Blocka**, Daniel (CA) | International Society for Prosthetics & Orthotics

Themenblock Vorsitz: **Blumentritt**, Siegmart, Prof. Dr. (DE) | Otto Bock HealthCare GmbH

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| 1 / 4 | Einführungspräsentation - es ist wichtig, dieses Thema anzusprechen | Blocka , Daniel (CA) International Society for Prosthetics & Orthotics |
| 2 / 4 | Standpunkt des Ausbilders und des Orthopädietechnikers | Ruder , Gordon (CA) George Brown College |
| 3 / 4 | Biomechanik in der Orthopädietechnik-Ausbildung – Realitäten & Themen aus der Sicht industrieller Forschung
<i>The support and locomotion organs represent the largest organ system of the human organism. These organs fulfil primarily mechanical tasks such as posture and movement. Many people are in need of orthopaedic aids because the function of this system is limited.</i> | Blumentritt , Siegmart (DE) Otto Bock HealthCare GmbH |
| 4 / 4 | Der Standpunkt des Forschers
<i>The National Commission on Prosthetic and Orthotic Education (NCOPE) defines an entry-level prosthetist-orthotist as someone who has achieved entry-level competence through a combination of academic and clinical experience education; who upholds the clinical standards and values of the prosthetics-orthotics profession; and who is an effective consumer of research</i> | Fatone , Stefania (US) Northwestern University |

72.
[3674]

Donnerstag 13.05.2010 | 10:30 - 12:00 | Saal 5 | Themenblock | Unterthema/Track: Orthetik

Orthetik - AFO

Themenblock Vorsitz: **Muraru**, Luiza (BE) | Central Research Laboratory for Biomedical and Rehabilitation Technology (MOBILAB)


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| 1 / 7 | Einfluss zweier AFOs auf die EMG-Aktivität des Musculus peroneus longus bei Athleten mit funktionaler Knöchelinstabilität
<i>The purpose of this study was to determine whether there was a difference in latency of the peroneus longus muscle using two types of ankle orthoses in response to sudden ankle inversion perturbation.</i> | Sohrab , Marjaneh (IR) Iran university of Medical Science |
| 2 / 7 | Systematische Übersichtsarbeit zur Festlegung der Best-Practice-Berichterstattungs-Richtlinien bei AFO-Interventionen in Studien bei Kindern mit Zerebralparese
<i>This review used a customised data extraction and quality checklist to evaluate the level and quality of detail reported about the AFO intervention, participants and testing protocol in AFO intervention studies. Best practice reporting guidelines were developed.</i> | Ridgewell , Emily (AU) La Trobe University |
| 3 / 7 | Quantifizierung des Druckverlaufs des Kraftangriffspunkts (COP) nach dem Einsatz einer Fußorthese im Alltag
<i>On the basis of plantar pressure measurement the influence of an ankle brace on the path of the center of pressure (COP) was studied.</i> | Werner , Simone (DE) Orthopädieschuhtechnik Möller |
| 4 / 7 | Beurteilung der funktionellen Parameter von AFOs bezüglich unterschiedlicher Materialien und Design-Eigenschaften
<i>This study investigates the effect of different materials and different design characteristics on functional parameters of ankle foot orthosis (AFO). Preliminary results of finite element (FE) simulations are presented.</i> | Muraru , Luiza (BE) Central Research Laboratory for Biomedical and Rehabilitation Technology (MOBILAB) |
| 5 / 7 | Beobachtungen zur Elektrostimulation des Peronäusnervs bei Kindern mit Zerebralparese
<i>1961 Liberson published the first study of FES. 2 computerized FES devices were introduced lately. Few researches have been published about the use of FES, less were published about FES in pediatrics. We will show examples of FES with CP children, report our observations and describe the potential</i> | Alexander , Michael (IL) stride Orthopedics Ltd. |
| 6 / 7 | Auswirkung der Steifigkeit einer AFO auf den Energieverbrauch während des Gehens - eine Simulationsstudie
<i>We used a computer simulation model to assess the influence of AFO stiffness on the energy cost of walking, and the amount of energy stored in the AFO. We found an optimal AFO stiffness, which was determined by the</i> | Bregman , Daan J.J. (NL) VU University Medical Center |

amount of energy stored and returned by the AFO, and by the timing of the energy retu

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| 7 / 7 | Folgestudie zum Einsatz einer einfacheren anstatt einer schwereren AFO durch minimal-invasive Chirurgie (MIC) der spastischen Fußfehlstellung
<i>In order to adjust Japanese life style, we need simplified AFO for stroke patients with high degree of spastic foot deformity. Bare foot activities are also required in some moment. MIS were performed which didn't need post operative bed-rest. Successful results were obtained.</i> | Asayama, Ko (JP) Nagao Hospital |
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73. Donnerstag 13.05.2010 | 12:00 - 14:00 | Foyer Säle | Poster Session | Unterthema/Track: Orthetik
[3701] **Orthetik**

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| 1 / 1 | In-brace Corrections Using a New Brace Design in the Treatment of Thoracic Kyphosis
<i>Our efforts to reduce brace material have resulted in a special bracing design. Aim of this presentation is to study possible in-brace corrections which can be achieved with this brace. An average in-brace correction of > 15° as achieved with this new kyphosis brace seems to be favourable.</i> | Weiss, Hans-Rudolf (DE) Praxis Dr. med. Weiß |
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74. Donnerstag 13.05.2010 | 14:00 - 14:30 | Saal 1 |  Keynote-Vortrag
[3788] **Rehabilitation: der Schlüssel zu Fähigkeiten ...**

Keynote Redner: Geertzen, Jan, Prof. Dr. (NL) | University Medical Center Groningen

Zusammenfassung: *In den Niederlanden liegt die Inzidenz von größeren Amputationen der unteren Extremitäten bei 19 Patienten pro 100.000 Einwohnern. Kliniker wie etwa Chirurgen, Rehabilitationsärzte, Orthopädietechniker, Physiotherapeuten, Psychologen und andere Beteiligte in fachbereichsübergreifenden Rehabilitationsteams, die in der Betreuung von Amputierten tätig sind, treffen tagtäglich Entscheidungen über die Behandlung von Patienten. Weltweit gibt es nur wenige klinische Leitlinien, die dem Kliniker bei Amputation und (Verschreibung von) Prothesen helfen. Keine dieser Leitlinien ist jedoch vollständig evidenzbasiert. Eine oder zwei dieser Leitlinien sind teilweise evidenzbasiert, allerdings nur für eine Berufsgruppe bzw. einen kleinen Teil des Fachbereichs. Im zurückliegenden Jahrzehnt ist die evidenzbasierte Praxis zu einem viel diskutierten Thema geworden. Dabei geht es um den bewussten und systematischen Gebrauch der besten verfügbaren Forschungserkenntnisse zur Entscheidungsfindung bei der Behandlung von Patienten*

75. Donnerstag 13.05.2010 | 15:00 - 16:30 | MZF 1/2 | Themenblock
[3833] **Open Forum 5**

Themenblock Vorsitz: Heim, Sepp (DE)

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| 1 / 6 | The Rehabilitation of a Chinese Hemicorporectomy Amputee after Pelvic Trauma | Yang, Ping (CN) China Rehabilitation Research Center
Xuejun, Cao (CN)
Tian, Gang (CN) |
| 2 / 6 | Alternative of Upper Limb Prothesis | Kajunjumele, Tufwane Samuel (TZ) |
| 3 / 6 | An Alternative Method for Fabricating Trans-Tibial Sockets through the Use of Socket Cones | Bireda, Girma (ET) |
| 4 / 6 | Quality of Life of Wheelchair Users in Moshi | Ludada, Ncedo (ZA) |
| 5 / 6 | Sand Casting an Alternative Method for Fabricating Trans-Tribal Sockets | Mwaijande, Violet T. (TZ) |
| 6 / 6 | Effect of Lateral Wedged Insole on Knee Mechanics | Huang, Meng (HK) The Hong Kong Polytechnic University |

76. Donnerstag 13.05.2010 | 15:00 - 16:30 | Saal 1 | Themenblock | Unterthema/Track: Amputation/Prothetik
[3663] **Beinprothetik - Schaft**

Themenblock Vorsitz: Babbar, Ajay (IN) | All India Institute of Medical Sciences, Ansari Nagar, New Dehli

1 / 8	Anatomischer Schaft vs. Sitzbeinumfanggreifender Schaft - erste Ergebnisse eines intraindividuellen Vergleiches unter klinischen, biomechanischen und prothetischen Aspekten <i>In a prospective study patients after transfemoral amputation are provisioned with an ischial containment socket and with an anatomical or ramus containment socket. The two provisions are compared intraindividually from clinical, biomechanical and prosthetic aspects.</i>	Linkemeyer , Ludger (DE) Klinik und Poliklinik für Technische Orthopädie und Rehabilitation
2 / 8	Beinprothetik II - Analyse und Design des Prothesenschaftes <i>A three-dimensional solid model of major tissue of the residual limb is developed from MRI data. To conduct further analysis and simulations, solid models of major tissues are to be assigned respective material models and specific interaction properties in Abaqus Finite Element software.</i>	Tawfik , Samer A. (US) School of Aerospace Engineering
3 / 8	Hautprobleme am Stumpf von Beinamputierten beeinflussen Berufsleben und/oder Freizeitgestaltung <i>Influence of skin problems on vocation and/or hobbies was assessed with a questionnaire (giving a sum score, range 0-27). There were 805 participants (507 had skin problems). The mean sum score was 5.5 (SD=4.1). The sum score significantly correlated with the number of complaints ($r=.483$, $p=.01$).</i>	Meulenbelt , Henk (NL) University Medical Center Groningen, University of Groningen
4 / 8	Prothetische Schäfte - pflanzliche Materialien statt Akrylharzen, Carbonfasern und Glasfasern <i>Manufacturing of prosthetic limbs sockets produces irritant gases and dusts. We are working towards developing a safer composite material derived from plant based resins with a view to subsequent production and ISO testing.</i>	Campbell , Andrew (UK) University of Strathclyde
5 / 8	Compliance-Studie zu Stümpfen/Schäften bei transtibial Amputierten <i>This project investigates the effect of prosthetic gel liner thickness on compliance at the residual limb-prosthetic socket interface, pressure distribution on the residual limb, and selected gait parameters related to shock absorption.</i>	Boutwell , Erin (US) Northwestern University Prosthetics Research Laboratory and Rehabilitation Engineering Research Program
6 / 8	Kräfte im Schaft während des Laufens <i>With recent developments in technology that provide the ability to observe forces placed on the residual limb, the investigation of how high impact activities will effect these forces becomes possible. Using running as experimental condition and walking as a baseline we collected force data sets.</i>	Martin , Jay (US) Orthocare Innovations-Engineering
7 / 8	Eine Einführung zu Beurteilungsmethoden für den Schaftsitz bei Ober- und Unterschenkel-Prothesen sowie Knie-Exartikulationprothesen <i>This article is aimed to provide a summarized understanding of the methods #used to evaluate the socket fit in lower limb prostheses for prosthetists or #specialists and includes a brief introduction, accuracy, pros and cons and #limitations to each method.#</i>	Fallahian , Nader (IR) University of Social Welfare and Rehabilitation Sciences
8 / 8	Vergleichende Studie zu transtibialen Prothesen - Sandguss und Normalguss <i>The sand casting system uses the dilatency phenomenon to its best use by fabricating the socket with some material which can be reutilized and the socket/liner too in more accurate,quicker and cost effective way.The time reducing factor is important for a developing country with large no of amputees</i>	Babbar , Ajay (IN) All India Institute of Medical Sciences, Ansari Nagar, New Dehli

77.
[3615]

Donnerstag 13.05.2010 | 15:00 - 16:30 | Saal 2 | Symposium | Unterthema/Track: Amputation/Prothetik

Technik der Osseointegration - Rehabilitation, Langzeitergebnisse, Komplikationsmanagement


Themenblock Vorsitz: **Greitemann**, Bernhard , Prof. Dr. med. Dipl. Oec. (DE) | Klinik Münsterland der Deutschen Rentenversicherung Westfalen

Themenblock Vorsitz: **Hagberg**, Kerstin , PhD (SE) | Sahlgrenska University Hospital

1 / 5	OPRA Rehabilitations-Protokoll und Ergebnis transfemorale Osseointegration in Schweden <i>Patients treated with OI-prostheses report significantly increased amount of prosthetic use. At 2-years follow-up 93% used the OI-prosthesis.</i>	Hagberg , Kerstin (SE) Sahlgrenska University Hospital
2 / 5	Rehabilitation und Ergebnisse in Bezug auf Osseointegration bei der oberen Extremität in Schweden	Winterberger , Kerstin Caine (SE) Sahlgrenska University Hospital

Twenty years of experience of bone anchored upper-limb prosthesis indicate improved functionality due to the increased motion in the shoulder and elbow joints for short transhumeral and transradial level and improved gripfunction for thumb level. Patients state better quality of life and increased daily use of prosthetic device compared with previous conventional prostheses. For thumb amputation there is no good prosthetic alternative.

3 / 5	Rehabilitation und Ergebnisse von Endo-Exo-Femurprothesen in Lübeck <i>Since 1999 40 patients in Lübeck have been treated with EEFP. The results of a retrospective study including 20 patients using the EEFP for one year or longer show a significantly increased mobility level and quality of life as well as less problems in everyday use.</i>	Hoffmeister, Thomas (DE) Sana Kliniken Lübeck GmbH
4 / 5	Komplikationen und Problemlösungsstudien in Lübeck <i>Complications and number of remedial treatment could be reduced by changing the prosthesis design.</i>	Clausen, Astrid (DE) Unfallchirurgie SANA Kliniken Lübeck GmbH
5 / 5	Umgang mit Komplikationen und Langzeitergebnissen <i>This presentation will report on how to deal with complications when using bone anchored amputation prostheses as well as report on the long term results from the experience with this treatment since 1990</i>	Branemark, Rickard (SE) Sahlgrenska University Hospital

78. Donnerstag 13.05.2010 | 15:00 - 16:30 | Saal 3 |  Symposium | Unterthema/Track: Ausbildung
[3772]

Lebenslanges Lernen im Orthopädietechnik-Geschäft: Bedürfnisse, Anforderungen und Wege zur Verbesserung

Themenblock Vorsitz: **Blocka, Daniel (CA)** | International Society for Prosthetics & Orthotics

Zusammenfassung: *Idea of this symposium is to discuss what has to be done to ensure a continuous life long learning of practitioners and technicians to be able to provide best treatment of customers with the right products. What can we do to make continuous learning attractive? Which are the right methods? Are there differences between emerging and developed countries?*

1 / 5	Weiterbildung als notwendiger Bestandteil der Geschäftsstrategie: Der Weg von Otto Bock	Näder, Hans-Georg (DE) Otto Bock HealthCare GmbH
2 / 5	Neue Wege in der Trainingsentwicklung und in der Trainerausbildung	Hehn, Roland (DE) Otto Bock HealthCare GmbH
3 / 5	Beispiel einer ISPO Level II Prüfung in Deutschland	Becker, Karl (DE) Otto Bock HealthCare GmbH
4 / 5	Die Entwicklung einer Public Private Partnership in der Weiterbildung aus Sicht der ISPO <i>The importance of collaboration within the field of Prosthetics and Orthotics is critical for the long term development of the field and to ensure that services for those we serve is at a high level in terms of quality and standards. Due to the ever changing and evolving nature of our field and demands on practitioners, it is critical that there is a focus around the importance of education and "life long learning" for professionals. In turn, it follows that we must collectively work together to develop collaborative partnerships in education as a means to support this objective.</i>	Blocka, Daniel (CA) International Society for Prosthetics & Orthotics
5 / 5	Neuer Studiengang „Orthobionic“ an der PFH Göttingen	Albe, Frank (DE) Private Fachhochschule Göttingen Blumentritt, Siegmund (DE) Otto Bock HealthCare GmbH

79. Donnerstag 13.05.2010 | 15:00 - 16:30 | Saal 4 | Themenblock | Unterthema/Track: Fuß und Schuh
[3680]

Fuß & Schuh - Sport

Themenblock Vorsitz: **Peikenkamp, Klaus, Prof. Dr. (DE)** | Fachhochschule Münster

1 / 6	Einfluss maßangefertigter Fußorthesen mit neuromuskulären Elementen auf die Muskelaktivität - eine randomisierte Studie <i>NFO are controversially discussed and still not evaluated. In contrast to recent studies we are interested in muscular activation. Based on the detected effects, a better understanding and an individual treatment of NFO should be resulting in increasing benefit for patients.</i>	Stief, Thomas (DE) FH-Muenster
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| 2 / 6 | Einfluss verschiedener Sportschuhe auf die Pronation und die Druckverteilung unter dem Fuß
<i>This project evaluates the influence of shoe type on the unroll of the foot by measuring kinematics and the pressure distribution under the foot during barefoot running and wearing 5 different types of sports shoes.</i> | Vertommen, Helga (BE) K.H. Kempen University College |
| 3 / 6 | Ergebnisse eines evidenzbasierten orthetischen Versorgungssystems zur Reduzierung von Schmerzen, die insbesondere bei Athleten durch Überbelastung hervorgerufen werden.
<i>A successful and long-ranging reduction of chronic overuse injuries, can be guaranteed by the evidence-based orthotic supply system of "movecontrol" which is predicated on the prospective studies of Dr. phil. Heiner Baur & Prof. Dr. med. Frank Meyer (University of Potsdam, Center of sports medicine).</i> | Lang, Sarah (DE) IETEC Akademie |
| 4 / 6 | Mechanischer und biomechanischer Vergleich einer geklebten und einer vulkanisierten Innensohle für Laufschuhe
<i>A multifactor comparison between a bonded and vulcanized insole for jogging was performed in this case study. After using 470 km the vulcanized insole shows (i) a reduced asymmetry in mean pressure, (ii) no reduced thickness and (iii) a lower density compared to the bonded version in the heel area.</i> | Peikenkamp, Klaus (DE) Fachhochschule Münster |
| 5 / 6 | Veränderte Bodenreaktionskräfte und Druckverteilung während der ersten vier Wochen beim Tragen eines MBT-Schuhes
<i>In load response the MBT-shoe causes pressure shifting from the heel to the midfoot, it hampers forward motion and prevents damping of plantarflexion. This increases impulse, forcerate und force maximum, respectively. The curved sole decreases the pressure in the forefoot area.</i> | Müller, Stephan (DE) FH-Münster |
| 6 / 6 | Optimierte Produktion und Auswahl von orthopädischen Schuhen und Sportschuhen mit einem neuen "Mehrfachsensor"-3D-Fußscanner
<i>A new low-cost photogrammetric 3D foot scanner integrates a sole pressure map scanner to produce in one run a 3D model combining registered (aligned) geometric and pressure data of the patient foot. This allows for precise and fast production of customized shoes including a personalized foot-bed.</i> | Massen, Robert (DE) corpus.e AG |

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[3696]

Donnerstag 13.05.2010 | 15:00 - 16:30 | Saal 5 |  Symposium | Unterthema/Track: Rehabilitation

Innovative Hilfsmittel für die Rehabilitation und Menschen mit Behinderungen

Themenblock Vorsitz: **Kraft, Marc**, Prof. Dr.- Ing. (DE) | Technische Universität Berlin

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| 1 / 6 | Entwicklung einer innovativen Gleichgewichtsprothese
<i>Balance prostheses are neurofeedback systems to support the maintenance of balance. The present project was aimed at developing a vibrotactile device which helps patients with a vestibular disorder and elderly which are prone to fall.</i> | Ernst, Arneborg (DE) Unfallkrankenhaus Berlin |
| 2 / 6 | Regelungsverfahren für Endeffektor-basierte Reha-Robotik in Kombination mit elektrischer Stimulation in der Gangtherapie nach Schlaganfall | Schmidt, Henning (DE) Fraunhofer-Institut für Produktionsanlagen und Konstruktionstechnik (IPK) |
| 3 / 6 | Kompakte assistive Bewegungstherapiegeräte mit rotatorischen fluidischen Soft-Aktuatoren
<i>On the market existing patient-cooperative devices for motion therapy and rehabilitation are very expensive and designed for clinical use only. Compact, low-cost and light-weight assistive devices, fit also for ambulant use, can be realized using novel soft pneumatic actuators of direct rotary type.</i> | Ivlev, Oleg (DE) FWBI Friedrich-Wilhelm-Bessel-Institut Forschungsgesellschaft mbH |
| 4 / 6 | Einschätzung von Gefahrensituationen im täglichen Leben bei Amputierten mit knochenverankerten Extremitätenprothesen
<i>We describe theoretical and biomechanical analysis of risk situations in the daily life of amputees. Our aim is to provide an opportunity to develop risk reducing mechanisms for amputees with bone anchored Exoprotheses, with focus on fall situations.</i> | Bunke, Sebastian (DE) Technische Universität Berlin |
| 5 / 6 | Hybrid-Orthese für die obere Extremität
<i>The project aims at the development of a portable system for the upper extremity, that combines joint stabilisation, external power from fluidic</i> | Pylatiuk, Christian (DE) Karlsruher Institut für Technologie |

actuators with inherent compliance, FES and a natural control system that allows the tetraplegic user to regain independence.

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| 6 / 6 | TExoPro – antimikrobielle Oberflächenbeschichtung für einen permanenten transkutanen Übergang in der Auffassung einer Endo-Exo-Prothese
<i>The clinical implementation of bone anchored transcutaneous limb prosthesis is still limited due to infections at the side of the percutaneous passage. Therefore we have designed antimicrobial, but biocompatible polymere surface coatings. First results of in vitro and in vivo experiments are presented.</i> | Calließ, Tilman (DE)
Medizinischen Hochschule
Hannover |
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81. Donnerstag 13.05.2010 | 17:00 - 18:30 | MZF 1/2 | Themenblock

[3839]

Open Forum 6

Themenblock Vorsitz: Heim, Sepp (DE)

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| 1 / 5 | Load Distribution Features and Association between Primary Cognitive Ability Level and Balance Function in Post Stroke Patient | Li, Jibin (CN) Sun Yat-sen University |
| 2 / 5 | Study on Orthosis for Patients with Large Femoral Bone Defect and Leg Length Discrepancy | Yao, Shensi (CN) China Rehabilitation Research Center |
| 3 / 5 | Comparison of Plantar Pressure between Weightlifters with Flatfeet and Normal Feet | Feng, Beibei (CN) The Hong Kong Polytechnic University |
| 4 / 5 | Ischial Containment Negative Cast Taking System - Socket Abarca-UDB | Abarca, Gilberto (SV) Don Bosco University |
| 5 / 5 | Sudanpro is an Alternative High Tech BK Prosthesis to the High Priced Ones | Ismail, Mohammad (SD) Tawsol Al Amal Charity Organization for the Treatment and Care of Wounded and Disabled |

82. Donnerstag 13.05.2010 | 17:00 - 18:30 | Saal 1 | Themenblock | Unterthema/Track: Amputation/Prothetik

[3664]

Beinprothetik - funktionale Kniepassteile 3

Themenblock Vorsitz: Pusch, Martin, Dipl.-Ing. (DE) | Otto Bock HealthCare GmbH

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| 1 / 5 | Mikroprozessorgesteuerte Prothesenkniegelenke - Design und Leistung
<i>The linear hydraulic system of the C-Leg in combination with the control algorithm provides functional advantages in many everyday situations. Compared to other knee components, it offers the user reliable and predictable function during challenging motion patterns and in safety-critical situations.</i> | Bellmann, Malte (DE) Otto Bock HealthCare GmbH |
| 2 / 5 | Klinische Beurteilung der zweiten Generation des intelligenten, mikroprozessorgesteuerten Prothesenkniees
<i>This study investigated amputees subjective experiences of the second generation of a user-adaptive micro processor controlled knee. This was evaluated using a questionnaire with Likert designed questions. The results indicate that the use of microprocessors enhances the users performance.</i> | Johansson, Sven (SE) Össur Nordic AB |
| 3 / 5 | Neue Sicherheitskonzepte für mikroprozessorgesteuerte Kniegelenke
<i>Microprocessor controlled knees shut down in cases of malfunction, increasing the risk for the user. Intelligent concepts can be used to maintain electronic support in these cases, which enables the user to safely use the device to "drive to the garage". Trials confirmed the ideas developed.</i> | Kampas, Philipp (AT) Otto Bock Healthcare Products GmbH |
| 4 / 5 | Wer besiegt die Schwerkraft? Ein neues mikroprozessorgesteuertes Kniegelenk unterstützt alternierendes Treppensteigen
<i>Alternating stair ascent as a TF amputee without the use of external power is described. The technical, cosmetic and sound limb relief aspects of the solution are explained. The residual limb and socket conditions essential to achieve the technical solution are discussed.</i> | Pusch, Martin (DE) Otto Bock HealthCare GmbH |
| 5 / 5 | Smart Mobility - ein neues mikroprozessorgesteuertes Kniegelenk für Aktivitäten des täglichen Lebens
<i>The potential to extend the range of activities of daily living supported by microprocessor controlled knees has been evaluated. A prosthesis has been</i> | Kampas, Philipp (AT) Otto Bock Healthcare Products GmbH |

developed that automatically detects and supports activities beyond the basic support for walking, standing and sitting.

83. Donnerstag 13.05.2010 | 17:00 - 18:30 | Saal 2 | Themenblock | Unterthema/Track: Amputation/Prothetik

[3665]

Beinprothetik - Biomechanik 1

- | | | |
|-------|---|--|
| 1 / 7 | Hüftmoment nach transfemorale Amputation - isometrisches und auxotonisches Hüftmoment bei Amputierten und Nicht-Amputierten
<i>The presented results allow a good assessment of muscle changes associated with an amputation its late effects. The comparison of isometric and auxotonic measurements shows which hip moments occur during gait, and which isometric maximums are possible.</i> | Günther, Michael (DE) Günther Bionics GmbH |
| 2 / 7 | Vergleich der maximalen isometrischen Hüft- und Kniemomente bei transtibial und transfemorale Amputierten während des Gangzyklus
<i>Maximum isometric moments of transtibial (TT) and transfemoral (TF) amputees were tested at the residual limb hip and knee. Compared to controls, TF showed hip strength deficits in all motion directions while TT had knee and hip strength deficits in all directions but in hip adduction and extension.</i> | Heitzmann, Daniel (DE) Orthopädische Universitätsklinik Heidelberg |
| 3 / 7 | Besseres Gangbild und verringerter Energieaufwand durch osseointegrierte transfemorale Prothesen - Ergebnisse der OPRA Studie
<i>This prospective study on 20 patients treated with osseointegrated transfemoral prostheses show decreased energy cost and increased walking habits at 2-years follow-up as compared to the preoperative situation when using conventional socket prostheses.</i> | Hagberg, Kerstin (SE) Sahlgrenska University Hospital |
| 4 / 7 | Instrumentierte Bewegungsanalyse und transtibiale Prothesen - eine systematische Übersichtsarbeit
<i>A systematic review was conducted to critically evaluate methods used during three dimensional motion analysis of trans-tibial amputees. Presented is a critical review of the level of evidence, quality of research design, and summary of dependent and independent variables utilized by researchers.</i> | Rusaw, David (SE) Jönköping University - School of Health Sciences |
| 5 / 7 | Stabilitätsparameter - unversehrte und prothetische Gliedmaßen
<i>Plantar pressure data were collected while unilateral transtibial prosthesis users performed six walking tasks. Six dynamic stability parameters were extracted for each limb. The intact limb compensated for instability, enhancing stability during stance-phase on the prosthetic side.</i> | Kendell, Cynthia (CA) The Ottawa Hospital Rehabilitation Center |
| 6 / 7 | Kinematische Messung am Knie mit einem magnetischen Inertialsensor bei Oberschenkelamputierten während des Gehens im realen Umfeld
<i>Evaluation of the accuracy of Inertial and Magnetic Measurement Units when measuring prosthetic knee kinematics was presented. Furthermore, a new kinematic coupling method to improve the accuracy and to correctly represent the kinematics of a C-Leg prosthetic knee was tested.</i> | Raggi, Michele (IT) INAIL Centro Protesi |
| 7 / 7 | CAA - Computergestütztes Ausrichten - eine neue Methode des elektronischen Vermessens für passgenauere Beinprothesen anhand objektiver Kriterien
<i>A method has been developed to give component dependent bench alignment recommendations on a PC screen. For this, sensors in a knee prosthesis compute components and position of the static ground reaction force relative to the prosthesis. This method allows objective alignment without a gait-lab.</i> | Seyr, Martin (AT) Otto Bock Healthcare Products GmbH |

84. Donnerstag 13.05.2010 | 17:00 - 18:30 | Saal 3 |  Symposium | Unterthema/Track: Kinder

[3813]

Umfassender Überblick zum Proximalen Fokalen Femurdefekt (PFFD)

Themenblock Vorsitz: Crandall, Robin, MD (US) | Shriners Hospital for Children, Twin Cities

Zusammenfassung: Proximal femoral focal deficiency is a rare disorder but commonly seen in pediatric limb deficiency centers. Decision making for this problem is complex and multifactorial. The purpose of this symposium is to present a comprehensive look at this malady. This seminar will cover diagnosis, classification, conservative treatment, operative treatment both complex and simple, long-term follow-up, bilateral cases, genetics and complication

of treatment. An in-depth discussion of appropriate femoral length, rotationplasty, and prosthetic fitting will be emphasized. A panel discussion will follow with audience participation encouraged.

1 / 4	Femoraler fokaler Femurdefekt (PFFD) - eine verständliche Übersichtsarbeit zu Klassifikationssystemen und Behandlungsoptionen <i>Femoral deficiency syndromes are rare anomalies often referred to as proximal femoral focal deficiency (PFFD). They are frequently seen in busy pediatric centers and often create the most difficult decision making problems.</i>	Crandall, Robin (US) Shriners Hospital for Children, Twin Cities
2 / 4	PFFD - operative Behandlung	Krajbich, Ivan (US) Shriners Hospital for Children
3 / 4	Fixierung des Kniegelenkes bei Kindern mit proximalen fokalen Femurdefekt (PFFD) - die richtige Stumpflänge	Watts, Hugh (US) Shriners Hospital for Children
4 / 4	Umkehrplastik - ein prophetischer Zukunftsausblick	Banziger, Eugene (CA)

85. Donnerstag 13.05.2010 | 17:00 - 18:30 | Saal 4 | Themenblock | Unterthema/Track: Verschiedenes

[3683]

Freie Themen 2

Themenblock Vorsitz: **Gibeault, Amanda (CA)** | Cetco Capital (OrtoPed)

1 / 7	Einfluss eines Stimulationssystems auf die Körperhaltung - eine Fallstudie <i>For a woman with hemiparesis a stimulation system for the influencing of posture and gait has been developed. The system stimulates in a way that the deviation to horizontal position of shoulders can be perceived and the disabled person is able to correct this independently.</i>	Roßdeutscher, Wolfram (DE) TU Berlin
2 / 7	Sensor-Kalibrierungsgerät für die Interface-Druck-Messung an Prothesenschäften <i>A new apparatus was designed for the calibration of thin film socket pressure sensors based on an inflatable bladder replicating the geometry of a representative transtibial residual limb. Average pressure measurement errors of 15-20% were demonstrated using two different calibration protocols.</i>	Bryant, Tim (CA) Queens University
3 / 7	Exkurs in Disability Studies - Analyse der "Referenzen" zu orthopädietechnischen Berufen <i>This study analyzes the limited references to the prosthetics and orthotics professions in disability studies literature, proposes reasons for this, and relates this to the prosthetics and orthotics professions.</i>	Gibeault, Amanda (CA) Cetco Capital (OrtoPed)
4 / 7	Unfälle mit medizinischen Hilfsmitteln für die Massage und für den Sport <i>The Federal Institute for Drugs and Medical Devices (BfArM) is Germany's Competent Authority for assessing incidents with medical devices. BfArM presents a survey about incidents with products for massage and physical exercise: Treatment-tables, units for physical exercise and for mobilisation.</i>	Behmann, Ilka (DE) Federal Institute for Drugs and Medical Devices (BfArM)
5 / 7	Belange zur Reparatur von elektrischen Rollstühlen und PAPAWS (power-activated-power-assisted wheelchairs) <i>A suitable wheelchair can be a vital means of mobility. A better understanding of the types of wheelchair repairs positively affect wheelchair use. This study was undertaken to demonstrate the differences of failures between PAPAWS and powered wheelchairs.</i>	Behzadi, Ganjali (IR) JMERC
6 / 7	Lagerungssysteme als alternative Ruhigstellung – weg vom Gips <i>The standard of the postoperative procedure after osteotomy is a uncomfortable plaster cast. We were looking for a comfortable stabile system, what gives us the possibility to unit the advantage of the stability of a plaster cast and the flexibility of a specific physiotherapy.</i>	Raabe, Jens (DE) Behandlungszentrum Aschau
7 / 7	Belange zur Reparatur manuell betriebener Rollstühle <i>A better understand-ing of the types of wheelchair repairs positively affect wheelchair use. Many of the failures are performable by instructing user and taking of instructed bicycle menders. This study was undertaken to demonstrate the differences of failures in manual wheelchairs.</i>	Vahidian, Mohammad Reza (IR) JMERC

86. [3948] Donnerstag 13.05.2010 | 17:00 - 18:30 | Saal 5 | Symposium | Unterthema/Track: Rehabilitation

Wheelchair Provision in Less Resourced Settings

Themenblock Vorsitz: **Horvath, Rob (US) | USAID**

1 / 3	Rollstuhl-Richtlinien und Entwicklungen	Khasnabis, Chapal (CH) World Health Organization
2 / 3	Auswirkung der Rollstuhl-Richtlinien	Constantine, David (GB) Motivation
3 / 3	Worldmade - neuer Ansatz zur Rollstuhlversorgung	Rushman, Chris (GB) Motivation Charitable Trust UK

87. [3609] Freitag 14.05.2010 | 08:00 - 09:15 | Saal 1 | Basic Instructional Course | Unterthema/Track: Amputation/Prothetik

Prothesen für Exartikulation

Themenblock Vorsitz: **Murray, Kevin, Dr. (UK) | University of Strathclyde**

1 / 3	Knöchelxartikulation	Murray, Kevin (UK) University of Strathclyde
2 / 3	Hüftexartikulation	Bellmann, Malte (DE) Otto Bock HealthCare GmbH
3 / 3	Knieexartikulation	Jarasch, Rolf (DE) Otto Bock Competence Centre

88. [3604] Freitag 14.05.2010 | 08:00 - 09:15 | Saal 2 | Basic Instructional Course | Unterthema/Track: Rehabilitation

Rehabilitation Amputierter II

Themenblock Vorsitz: **Greitemann, Bernhard, Prof. Dr. med. Dipl. Oec. (DE) | Klinik Münsterland der Deutschen Rentenversicherung Westfalen**

Zusammenfassung: *Rehabilitation of amputees is a real challenge. A multidisciplinary approach in an interdisciplinary working team is the base to overcome impairments and to reduce disabilities. The use of the ICF is of basic importance. The instructional courses gives an overview of the possibilities of rehabilitation in these patients.*

1 / 4	Physiotherapie in der Rehabilitation Unterschenkelamputierter <i>Physiotherapy following amputation surgery is one of the most important tasks in rehabilitation. It is an important part in the necessary inter- and multidisciplinary treatment. In the beginning treatment is focused on the reduction of the postoperative edema, strengthening of the upper extremities and the remaining limb.</i>	Kaiser, Helga (DE) Klinik Münsterland der Dt. Rentenversicherung Westfalen
2 / 4	Die Rolle der Sporttherapie in der Rehabilitation Unterschenkelamputierter <i>In the first period following an amputation the patient shows severe psychic problems in understanding and acceptance of the situation, there is a large number of patients who fear to be cripples and a load for relatives. As well there is skepsis how to solve the somatic challenges they need to recover and learn upright walking again.</i>	Kaiser, Wilhelm (DE) Klinik Münsterland der Dt. Rentenversicherung Westfalen
3 / 4	Amputierte und ihre Probleme beim Gehen	Brückner, Lutz (DE) Moritz-Klinik Gmbh & Co. KG
4 / 4	Rehabilitation von Amputierten - Musik als ein weiteres Hilfsmittel	Baumgartner, René (CH)

89. [3733] Freitag 14.05.2010 | 08:00 - 09:15 | Saal 3 | Basic Instructional Course | Unterthema/Track: Verschiedenes

Diskussion zu Druckverteilungsmessungen in der Orthopädie

Themenblock Vorsitz: **Peikenkamp, Klaus, Prof. Dr. (DE) | Fachhochschule Münster**

Themenblock Vorsitz: **Drerup, Burkhard, Prof. Dr. (DE) | Klinik für Technische Orthopädie und Rehabilitation**

1 / 3	Anwendung der Druckverteilungsmessung in der Orthopädietechnik <i>Pressure distribution measurement is used to prevent diabetic foot ulceration, control of load transfer from socket to stump, avoiding impeded</i>	Drerup, Burkhard (DE) Klinik für Technische Orthopädie und Rehabilitation
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blood circulation in the stump and control of seating pressures. Here, focus is put on applications in the diabetic foot and in fitting prosthetic sockets.

2 / 3 **Untersuchungen von Druckverteilungsmessungen**

A deep knowledge of the relationship between the physical variable and the attributes of the measured patient or user is important when analysing data of pressure distribution measurements. Some theoretical aspects for developing appropriate analysing procedures and parameters will be presented.


Peikenkamp, Klaus (DE) |
Fachhochschule Münster

3 / 3 **Einführung zu Druckverteilungsmessungen – Anforderungen und Einschränkungen für die Datensammlung**

Pressure measurement systems consist of a number of single sensors, which are distributed over the interesting contact area between a part of the human body and its surroundings. In orthopaedics there are three main measuring situations, which will be discussed in the present paper.

Natrup, Jörg (DE) | Gesellschaft
für Biomechanik Münster mbH

90.
[3826]

Freitag 14.05.2010 | 08:00 - 09:15 | Saal 4 |  Basic Instructional Course | Unterthema/Track: Fuß und Schuh

Umgang mit Reibung bei neuropathischen Fußproblemen

Themenblock Vorsitz: **Michael, John (US)** | CPO Services, Inc.

1 / 3 **Wiederholtes Hautbelastungstrauma - Wissenschaft und die Rolle der Reibung**

The need for pressure management to reduce soft tissue trauma is intuitive and the materials and techniques well established. However, high peak pressure repetitions are damaging primarily because they enable/facilitate high peak friction/shear forces.

Carlson, Martin J. (US)
| Tamarack Habilitation
Technologies Inc.

2 / 3 **Klinische Betrachtungen und Entscheidungen zum Schutz des neuropathischen Fußes**

Kuffel, Charles (US) | Arise
Orthotics & Prosthetics

3 / 3 **Technische Aspekte zum Umgang mit Reibung**

Payette, Mark J. (US) | Tamarack
Habilitation Technologies, Inc.


91.
[3942]

Freitag 14.05.2010 | 08:00 - 09:15 | Saal 5 |  Basic Instructional Course

geplant: Osteoporose

Themenblock Vorsitz: **Landauer, Franz, Dr. (AT)** | Universitätsklinik für Orthopädie Paracelsus Medizinische Privatuniversität

92.
[3789]

Freitag 14.05.2010 | 09:30 - 10:00 | Saal 1 |  Keynote-Vortrag

Technologie, Rehabilitation, Ergebnisse, Sport und Spezialisierung: Die Zukunft der Prothetik ist schon da

Keynote Redner: **Gailey, Robert, PhD, PT (US)** | University of Miami Miller School of Medicine

Zusammenfassung: Was früher einmal als die Zukunft der Prothetik beschrieben wurde, ist heute Realität. Die Kombination von mikroprozessorgesteuerten Prothesen und bionischen Prothesen ist stark im Kommen. Mit neuen Prothesenplattformen und neuronalen Schnittstellen führt der Weg immer stärker in Richtung einer gedankengesteuerten Neuroprothetik. Auch die Methoden innerhalb der Rehabilitation sind innovativer geworden, um die fortschrittlichen Prothesen bestmöglich zu nutzen. In gleichem Maße beweist der Einsatz geeigneter Maßnahmen für ein funktionelles Ergebnis den klinischen und funktionellen Wert dieser fortschrittlichen Prothesen. Da sowohl die Prothesen- als auch die Trainingstechnik mittlerweile immer weiter ausgereift sind, erzielen auch Sportler mit Amputationen inzwischen sportliche Höchstleistungen. In der Vergangenheit galten Technologie, modernes Training und sportliche Leistungen auf höchstem Niveau noch als Ausnahme. Heutzutage ist die Rückkehr in ein aktives Leben, einschließlich einer sportlichen Betätigung

93.
[3675]

Freitag 14.05.2010 | 10:30 - 12:00 | Saal 1 | Themenblock | Unterthema/Track: Orthetik

Orthetik - Technische Themen

Themenblock Vorsitz: **Lemaire, Edward (CA)** | The Ottawa Hospital Rehabilitation Centre

1 / 7	Belastungsanalyse einer Orthese mit hydraulischer Standphasensicherung <i>This paper presents an evaluation of the loading capacity of the Ottawalk-Speed Stance-Control Knee Orthosis (SCKO), which employs an angular velocity control approach to switch between free motion and flexion resistance modes.</i>	Lemaire, Edward (CA) The Ottawa Hospital Rehabilitation Centre
2 / 7	Entwicklung einer MRF (magnetorheologische)-Bremse für Beinorthesen <i>An intelligently controlled compact MRF (Magneto-Rheological Fluid) brake was developed and installed in ankle-foot orthosis. The Effectiveness of the device was proved based on the gait analysis of hemiplegia patients.</i>	Morimoto, Shoji (JP) Osaka Electro-Communication University
3 / 7	Patelleakinematik gesteuert durch eine neue Knieorthese - In-Vitro Studie der PatellaTrack-Orthese <i>The PatellaTrack orthosis (Otto Bock HealthCare GmbH) was evaluated in an in-vitro study. Bone pins screwed into Tibia and Patella of six cadaver legs indicate the biomechanical efficacy of the brace in regard to re-positioning and medial transition of the Patella during knee extension and flexion.</i>	Brüggemann, Gert Peter (DE) Institut für Biomechanik und Orthopädie
4 / 7	Biomechanische Beurteilung einer reziproken Gehorthese mit Rückschlagkupplung für Patienten mit Rückenmarkverletzung <i>The purpose of this study was to determine gait differences in three subjects ambulating with a conventional RGO with a locked knee and a RGO with a stance control knee. The subjects ambulated in doubled walking speed and stride length with stance control orthosis because of knee flexion.</i>	Jang, Dae-Jin (KR) Korea Orthopedics and Rehabilitation Engineering Center
5 / 7	Labortests und Beurteilung von Knieorthesen <i>Ensuring functionality, durability and usability of technical aids is crucial for both manufacturers and health insurance providers. This paper describes the properties and usage of novel testing devices for functional, fatigue strength and microclimatic testing of knee braces.</i>	Hochmann, David (DE) Technische Universität Berlin
6 / 7	Beurteilung orthopädischer Hilfsmittel mit "offenem" Kernspintomographen - Sequenzen, Abmessungen, Techniken und Software <i>This abstract presents a method which delivers an insight into the "patient - orthopaedic aid" system using three dimensional image acquisition methods in an open low-field MRI scanner under physical loading conditions controlled by self-built MRI compatible measurement techniques.</i>	Tettke, Martin (DE) Technische Universität Berlin
7 / 7	Carbonfaser-Feder AFO für aktive Abstoßung	Braatz, Frank (DE) Orthopädische Universitätsklinik Heidelberg

94.
[3490]

Freitag 14.05.2010 | 10:30 - 12:00 | Saal 2 | Symposium | Unterthema/Track: Verschiedenes

Lasst uns über Technologie reden - Aluminium, Titan, Magnesium - Leichtmetalle für orthopädietechnische Anwendungen

Themenblock Vorsitz: **Schneider, Urs**, Dr. med. (DE) | Fraunhofer-Institut für Produktionstechnik und Automatisierung IPA

Themenblock Vorsitz: **Johnson, Chris** (US) | College Parc Industries Inc.

1 / 6	Einführung: Lösungen von morgen sind abhängig vom Knowhow über Materialien und Systeme <i>An introduction to innovation chances for prosthetics and orthotics.</i>	Schneider, Urs (DE) Fraunhofer-Institut für Produktionstechnik und Automatisierung IPA
2 / 6	Elastizität, Oberflächenhärte und Lebensdauer - was muss ich wissen? <i>Relevant parameters for development and product decision making.</i>	Burling, Paul (UK) The Welding Institute
3 / 6	Computersimulation zum Verschleiß - wie kann das umgesetzt werden? <i>How wear of components can be simulated during development. Project example: knee implant.</i>	Browne, Martin (UK) University of Southampton
4 / 6	Maschinelle Bearbeitung, Modellierung, Schnelle Fertigung - wann was einsetzen? <i>Investment castings and rapid manufacturing for medical systems</i>	Lätchen, Manfred (DE) Tital GmbH
5 / 6	Magnesium - nur brennbar und spröde? <i>Experiences with magnesium in high end automotive components.</i>	Kussmaul, Bernd (DE) Bernd Kußmaul GmbH

- 6 / 6 **Funktionale Metalle - sind sie interessante Lösungen für die nahe Zukunft?** Metzner, Martin (DE) | Fraunhofer IPA
The lecture gives a summary of new plating technologies and how these technologies can lead to a functionalization of surfaces.

95.
[3540]

Freitag 14.05.2010 | 10:30 - 12:00 | Saal 3 | SY Symposium | Unterthema/Track: Orthetik

Dynamische Elastomer-Orthesen - ein neues Konzept für die orthetische Versorgung

Themenblock Vorsitz: Preisler, Benedikt (DE) | Pro Walk GmbH

Themenblock Vorsitz: Matthews, Martin, M.Phil (UK) | DM Orthotics Ltd.

- 1 / 5 **Jugendliche mit schwachem Muskeltonus im Rumpf, hervorgerufen durch verschiedene Ursachen, werden mit dynamischen GPS Soft-Orthesen versorgt - Fallstudien** Preisler, Benedikt (DE) | Pro Walk GmbH
The aim of these case studies was to select specific patient group and look at the effect of wearing Dynamic GPS Lycra Orthosis on them. As seen by ourselves, the therapists involved and the family/carers.
- 2 / 5 **Auswirkung einer "SNUG" sensorisch-dynamischen Orthese auf die Großmotorik von Kindern mit ICP** Fisher, Kathryn (UK) | DM Orthotics Ltd.
- 3 / 5 **Versorgung der Schulterinstabilität mit dynamischen Lycraorthesen** Matthews, Martin (UK) | DM Orthotics Ltd.
There are numerous orthotic interventions specifically designed for the supporting shoulder instability, however, most are cumbersome, often hot to wear and not necessarily fit for purpose. This is often due to the diagonal lines of pull provided by the orthoses. In contrast, the condition requires vertical force to re-locate the shoulder joint and re-align the musculature. The use of a unique dynamic shoulder stability orthoses appears to have overcome some of the reported experiences shown by the use of repeated radiographical images.
- 4 / 5 **Fallstudie - Entwicklung eines dynamischen Elastomermaterials zur Versorgung von Beckenschmerzen hervorgerufen durch Schwangerschaft** Sawle, Leanne (GB) | DM Orthotics Ltd.
Case study: Subject in her 30's; first contact was made in the fifth month of gravida 2. She had been suffering from anterior and posterior pelvic pain and bilateral hip pain since early pregnancy. A pelvic belt helped pain, but proved uncomfortable.
- 5 / 5 **Pilotstudie zu Auswirkungen elastischer Fußorthesen auf das Gangbild von Menschen mit chronischer Hemiplegie** Matthews, Martin (UK) | DM Orthotics Ltd.
This paper describes a novel, proof of concept, combined intervention utilising functional foot orthotics, dynamic elastomeric fabric orthoses and functional electrical muscle stimulation on a child with hemiplegic cerebral palsy. Using five video films in both sagittal and coronal planes the natural evolution of change proceeds from bilateral toe barefoot walking to bilateral heel strike all recorded in one session. The combination presents an opportunity of a possible insight for the future of orthotics, particularly in the provision of early orthotic intervention in the children with cerebral palsy.

96.
[3534]

Freitag 14.05.2010 | 10:30 - 12:00 | Saal 4 | SY Symposium | Unterthema/Track: Sport

Aktuelle Entwicklungen in der Sportschuhversorgung

Themenblock Vorsitz: Milani, Thomas, Univ.-Prof. Dr. (DE) | Technische Universität Chemnitz

- 1 / 5 **Methodologische Aspekte der sensorischen Vermessung** Schlee, Günther (DE) | Chemnitz University of Technology
This series of studies had the objective to evaluate intra- as well as inter-day reliability of plantar foot vibration thresholds. The very good repeatability found in the intra-day measurements suggests that treatment studies on foot sensitivity should be performed within same day.
- 2 / 5 **Durch Überlastung verursachte Sehnenverletzungen an der unteren Extremität** Lohrer, Heinz (DE)
- 3 / 5 **Dynamisches Fußscannen - Neuer Ansatz zum Vermessen des menschlichen Fußes während des Gehens** Schmeltzpfenning, Timo (DE) | Uniklinik Tübingen, Biomechanik

Investigation of dynamic foot shape was performed using a synchronized multiple scanner ensemble (ViALUX, Germany) based on fringe projection technology. Significant and practical relevant changes during stance phase of gait were determined whereas differences between static and dynamic values were not significant.

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|-------|---|---|
| 4 / 5 | Einfluss-Faktoren für die Durchführung dynamischer Materialprüfungen
<i>The goal of the present work was to determine factors which are important to improve the quality of mechanical material testing. By using a holistic approach, with biomechanical and mechanical tests, it could be shown that it is possible to create a mechanical test design which is suitable to perform functional footwear tests.</i> | Heidenfelder, Jens (DE)
Chemnitz University of Technology |
| 5 / 5 | Mechanische Eigenschaften medizinischer Kompressionstextilien
<i>For the development of a system to determine effects of medical compression stockings to the human body out of mechanical properties in first step the direct pressure measuring with Medical Stocking Tester was researched. For different stockings the reliability and absolute accuracy of the MST were tested. In common the function of the MST could be proved.</i> | Riesner, Isabel (DE) Chemnitz University of Technology |

97. Freitag 14.05.2010 | 10:30 - 12:00 | Saal 5 | Themenblock | Unterthema/Track: Rehabilitation
[3695]

Rehabilitation - chronische LWS-Schmerzen, Diverses


Themenblock Vorsitz: **Jarl, Gustav, Mr. (SE) |** Habilitation, Örebro County Council

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|-------|--|---|
| 1 / 6 | Langzeitwirkungen eines multimodalen Therapiekonzeptes gegen chronische LWS-Schmerzen. Können die Ergebnisse des orthopädisch-psychosomatischen Behandlungskonzeptes wiederholt werden?
<i>In the present study the effectivity of the integrated orthopaedic-psycho-somatic Concept of the Munsterland Clinic for the treatment of chronic low back pain could be mostly replicated, after it was successfully implemented in three further rehabilitation clinics.</i> | Fröhlich, Stephanie M. (DE) Institut für Rehabilitationsforschung Norderney e.V. |
| 2 / 6 | Lasst uns den Weg zum Wohlbefinden suchen und finden
<i>The aim of our study was to find out which activities people after amputation want to perform and consider important. We assessed fifty patients after lower limb amputations using FIM and COPM. We found that independency in DA is not sufficient, the patients want to perform other activities as well.</i> | Pihlar, Zdenka (None) Institute for Rehabilitation, Republic of Slovenia |
| 3 / 6 | Parzivar - eine Intervention in die "klugen" gemeinsamen Rehabilitationsziele für Patienten mit chronischen LWS-Schmerzen
<i>Summary. In the Parzivar-Project, physicians and therapists were trained in a step-by-step-intervention to negotiate individual, quantified treatment goals which tie in with important patient's concerns. The effectiveness of the intervention with respect to numerous treatment outcomes is currently a</i> | Dibbelt, Susanne (DE) Institut für Rehaforschung |
| 4 / 6 | Die Bedeutung des IWS (Isernhagen Work System) für die soziale und medizinische Beurteilung des stationären Aufenthaltes in orthopädischen Rehabilitations-Einrichtungen
<i>Based on an overview over IWS-literature this study shows that IWS can give useful information to physicians and patients if its boundaries are taken into account. However, many patients, especially those with a bad psychophysical background experience a significant increase of pain.</i> | Niemeyer, Claudia (DE) Institut für Rehabilitationsforschung e.V., Norderney |
| 5 / 6 | FOSSIL - Wirksamkeit des Einsatzes einer funktionellen Schulterorthese bei einer Schultergelenk-Subluxation nach Schlaganfall zur Vermeidung eines post-hemiplegischen Schulter-Hand-Syndroms
<i>Aim of this study is the judgment of the effectiveness with the use of a shoulder-joint-functionorthesis in shoulder-joint-subluxation after ischemic brain stroke in regard of avoidance of a posthemiplegic shoulder-hand-syndrome.</i> | Hartwig, Maik (DE) Neurologische Klinik Bad Neustadt |
| 6 / 6 | Aussagekraft der schwedischen Version von OPUS (Orthotic and Prosthetic Users Survey)
<i>The Orthotics and Prosthetics Users' Survey (OPUS) is an instrument evaluating different aspects of orthotic and prosthetic outcomes. OPUS-Swe was answered by 299 clients and validated by means of Rasch analysis.</i> | Jarl, Gustav (SE) Habilitation, Örebro County Council |

The results support the instrument's validity and provide suggestions for improvements.

98. Freitag 14.05.2010 | 12:00 - 14:00 | Foyer Säle | Poster Session | Unterthema/Track: Fuß und Schuh
[3702] **Fuß und Schuh**

99. Freitag 14.05.2010 | 12:00 - 14:00 | Foyer Säle | Poster Session | Unterthema/Track: Rehabilitation
[3704] **Rehabilitation**

100. Freitag 14.05.2010 | 14:00 - 14:30 | Saal 1 |  Keynote-Vortrag
[3790] **Diabetic Foot Disease: Current Concepts and Clinical Practice Guidelines**
Keynote Redner: **Idusuyi**, Osaretin , Prof. Dr. (US) | Southern Illinois University School of Medicine

101. Freitag 14.05.2010 | 15:00 - 16:30 | MZF 1/2 | Themenblock
[3845] **Open Forum 7**

Themenblock Vorsitz: **Yazicioglu**, Kamil , Professor, MD (TR) | Gülhane Military Medical Academy

Themenblock Vorsitz: **Franke**, Jens (DE) | Bundesinnungsverband für Orthopädie-Technik

1 / 6	Prosthetics and Orthotics in Turkiye: Past, Present and Future	Alsancak , Serap (TR) Ankara University
2 / 6	Managements, Patient Care, Publications from Past till Today in P&O	Goktepe , Salim (TR)
3 / 6	My Prosthetic/Orthotic-Related Experiences in Cambodia <i>My first visit to Cambodia in 2005 truly opened my eyes and ignited my interest in the field of prosthetics and orthotics. Three years later, I took the opportunity return to the country prosthetic/orthotic student volunteer. These experiences have helped me to grow as an individual and student, and will contribute to the Prosthetics/Orthotics professional I become.</i>	Bowerman , Kim (CA) Glenrose Rehabilitation Hospital
4 / 6	Prosthetic Experiences in Thailand	Lung , Stephanie (CA) Nova Scotia Rehabilitation Centre
5 / 6	Disability Situation in Ethiopia	Gelan , Tekle Selase (ET)
6 / 6	Possibilities of Operation and Rehabilitation for Iraqi Children by Freibettenfonds Franziskushospital Harderberg	Ehrenbrink , H. (DE) Orthopädie und Unfallchirurgie Franziskus-Hospital Harderberg Siemann , Katrin (DE) Orthopädie und Unfallchirurgie Franziskus-Hospital Harderberg

102. Freitag 14.05.2010 | 15:00 - 16:30 | Saal 1 |  Symposium | Unterthema/Track: Amputation/Prothetik
[3547] **Möglichkeiten und Grenzen der Linerversorgung bei Unterschenkelamputierten**

Themenblock Vorsitz: **Thiede**, Klaus Frederik (DE) | Otto Bock HealthCare GmbH

Themenblock Vorsitz: **Brückner**, Lutz , Priv.-Doz. Dr. med. habil. (DE) | Moritz-Klinik GmbH & Co. KG

Zusammenfassung: *Der Themenblock soll ein möglichst breites Spektrum für die Linerversorgung bei Transstibial-Amputierten geben. Über die verschiedenen Linersysteme mit ihren Anwendungsbereichen, den Materialeigenschaften, Grenzen und zum Schluss mit der Vorstellung von individuellen Lösungen soll der Zuhörer interessiert werden.*

1 / 5	Liner-Systeme - Haftungs- und Reibungsaspekte <i>Liners exhibit in general a high adhesion and friction in contact with the skin. Therefore, to transfer tangential forces between stump and socket normal pressures may be lower when using liners than without. This is illustrated by pressure measurements under different conditions.</i>	Drerup , Burkhard (DE) Klinik für Technische Orthopädie und Rehabilitation
2 / 5	Grenzen bei der Versorgung mit Liner-Systemen	Brückner , Lutz (DE) Moritz-Klinik GmbH & Co. KG

3 / 5	Besondere Liner-Anpassung für transtibial amputierte Patienten	Gawron, Olaf (DE) Pohlig Orthopädie-Technik, Niederlassung Heidelberg
4 / 5	Übersicht und Anwendungsbereiche der gängigen Liner-Systeme <i>Many different liner systems are available on the market. The lecture will give an overview of the various liner and connection systems, and a recommendation for the patient specific selection.</i>	Thiede, Klaus Frederik (DE) Otto Bock HealthCare GmbH
5 / 5	Vor- und Nachteile der Linerverwendung bei transtibialen Prothesen basierend auf systematischer Übersichtsarbeit und praktischer Erfahrung <i>Topics reviewed are among others: patient comfort, skin reaction to the liner, functional benefits and donning and doffing of the liner prosthesis. I have studied the last topic in relation to hand function of the amputee.</i>	Baars, Erwin C.T. (NL)

103. Freitag 14.05.2010 | 15:00 - 16:30 | Saal 2 | Symposium | Unterthema/Track: Amputation/Prothetik

[3875]

Amputationen der oberen Extremitäten und Stumpfverbesserung

Themenblock Vorsitz: **Baumgartner, René**, Prof. Dr. med. (CH)

1 / 4	Amputationen und Replantation im Bereich der Hand	N.N.
2 / 4	Herkömmliche und geläufige Amputationstechniken	Baumgartner, René (CH)
3 / 4	Amputationen bei Tumoren	Streitbürger, Arne (DE) Klinik und Poliklinik für Allgemeine Orthopädie
4 / 4	Stumpfverbessernde Maßnahmen	Wetz, Hans-Henning (DE) Klinik und Poliklinik für TO und Rehabilitation

104. Freitag 14.05.2010 | 15:00 - 16:30 | Saal 3 | Themenblock | Unterthema/Track: Fuß und Schuh

[3677]

Fuß & Schuh - Biomechanik, Alter und Frauen

Themenblock Vorsitz: **Soares, Denise**, Ms (PT) | University of Oporto

Themenblock Vorsitz: **Ramstrand, Nerrolyn**, Dr (SE) | Jönköping University

1 / 6	Eine experimentelle Untersuchung der Auswirkung von Keilsohlen auf den plantaren Druck im Vorfußbereich <i>The objective of this study was to investigate the influence of various wedged insoles on forefoot plantar pressure values. Forefoot plantar pressure values were measured under using 3 different types wedged insoles during static standing / dynamic walking compared with a barefoot value as control.</i>	Ban, Masuhara (JP) Sakamoto co., ltd.
2 / 6	Reproduzierbarkeit von Messergebnissen der plantaren Druckverteilung <i>The reproducibility of measurement results from the plantar pressure distribution was analysed for 2 test subjects. The results showed a high variability for the individual sensors of a measuring sole. Reproducibility is improved when major surface areas with a larger number of sensors are analysed.</i>	Bayyurt, Jan (DE) university of applied sciences münster Körper, Martin (DE)
3 / 6	Das Tragen von therapeutischen Schuhen durch Frauen bewertet - eine qualitative Untersuchung <i>Specialist therapeutic footwear is provided for people with rheumatoid arthritis. Despite the known clinical benefits there remains a problem of low usage. This study used a qualitative approach to gain deeper insight into this problem than previous work.</i>	Williams, Anita E. (GB) University of Salford
4 / 6	Patientenerwartungen und Nutzen von orthopädischen Maßschuhen <i>Expectations that were not met by the outcomes were associated with non use of custom-made orthopaedic shoes (OS), whereas expectations per se were not associated. This indicates that it is essential to keep patients expectations realistic, in order for OS to be used.</i>	van Netten, Jaap (NL) Center for Rehabilitation, University Medical Center Groningen
5 / 6	Auswirkung einer instabilen Schuhkonstruktion auf das Gleichgewicht bei über 55jährigen	Ramstrand, Nerrolyn (SE) Jönköping University

This study evaluated the relative effects of MBT shoes on standing balance, reactive balance and functional stability in a group of non-active females over the age of 55. After 8 weeks of wear the MBT shoe appeared to have positive effects as a training tool for select aspects of balance.

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| 6 / 6 | Einfluss verschiedener Keile auf kinetische Gangparameter bei älteren Patienten
<i>The purpose of this study was to investigate the influence of different wedges in elderly gait kinetics. Six kinds of wedges were used, in a sample of 17 subjects. Each subject walked over the force plate wearing each one of the wedges. The results showed that the influence is individual.</i> | Soares, Denise (PT) University of Oporto |
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105. Freitag 14.05.2010 | 15:00 - 16:30 | Saal 4 | Themenblock | Unterthema/Track: Amputation/Prothetik
[3666]

Beinprothetik - funktionale Kniepassteile 2

Themenblock Vorsitz: **Mathur, Mahendra Kishor, Dr. (IN) | Bhagwan Mahaveer Viklang Sahayata Samiti(BMVSS)**


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| 1 / 4 | Fortschrittliches belastungsabhängiges Ver- und Entriegeln einer mechanischen Knieprothese
<i>Conventional weight activated knee prostheses rely on a self-locking mechanism to create the required stability during stance. A new joint has been developed, in which the brake moment depends only on the load magnitude and position, thus producing a natural and symmetric gait.</i> | Ochoa, Juan (UK) Chas A. Blatchford & Sons Ltd. |
| 2 / 4 | Funktionaler Vergleich des M1-Kniegelenkes zu den in den Entwicklungsländern am meisten gebrauchten Alternativen
<i>Gait and functional characteristics were collected to compare the LEGS M1 knee a locked knee condition and a first-world polycentric knee. The LEGS M1 knee showed few gait penalties from a lower stability and amputees self reported a more satisfactory gait.</i> | Rispin, Karen (US) LeTourneau University |
| 3 / 4 | Stanford-Jaipur Kniegelenk für transfemorale Amputierte
<i>The development of Stanford - Jaipur polycentric knee have demonstrated the extreme affordability of the most advanced polycentric concept in the world. This is a major break through that would revolutionize prosthetic fitting of trans-femoral amputees.</i> | Mathur, Mahendra Kishor (IN) Bhagwan Mahaveer Viklang Sahayata Samiti(BMVSS) |
| 4 / 4 | Ein neues Kniegelenk mit Standphasensicherung für einkommensschwache Länder
<i>The development of a novel stance-phase controlled polymer injection moldable prosthetic knee joint for low-income countries is being presented. Prototypes of the knee joint were clinically tested indicating reliable stance-phase control and improved gait performance for the users.</i> | Andrysek, Jan (CA) Bloorview Kids Rehab |

106. Freitag 14.05.2010 | 15:00 - 16:30 | Saal 5 | Symposium | Unterthema/Track: Kinder
[3821]

Pädiatrische Prothetik und Rehabilitation

Themenblock Vorsitz: **Murray, Kevin, Dr. (UK) | University of Strathclyde**

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| 1 / 4 | Prothetische Versorgung von Kindern mit Beinverlust
<i>The symposium will discuss the management of upper and lower limb deficient children as a result of both congenital absence and acquired amputation. The development of a paediatric service along with the additional demands on the MDT will also be presented.</i> | Murray, Kevin (UK) University of Strathclyde |
| 2 / 4 | Kongenitaler Extremitätenverlust und Amputationen in der Kindheit – eine anspruchsvolle Herausforderung | Smith, Martin (UK) Southern General Hospital, Glasgow |
| 3 / 4 | Prothetische Versorgung von Kindern mit Armverlust
<i>It is important to have clear understanding of the aims the child's treatment. However with developing children experiencing changes in life, the prosthetist may therefore modify that treatment to achieve a goal.</i> | MacEachen, Vincent B. (UK) Southern General Hospital, Glasgow |
| 4 / 4 | Pädiatrische Ergotherapie - die Rolle des Ergotherapeuten
<i>The role of the Prosthetic Occupational therapist with children with congenital or acquired limb absence involves team working, a developmental approach and providing a link between the child/family and the prosthetic service.</i> | Thomson, Lynsey (UK) WestMarc Southern General Hospital |

107. Freitag 14.05.2010 | 17:00 - 18:30 | Saal 1 |  Symposium | Unterthema/Track: Sport
[3645]

Das Kniegelenk im Sport

Themenblock Vorsitz: **Schmitt**, Holger , Prof. Dr. med. (DE) | Orthopädische Universitätsklinik Heidelberg

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| 1 / 3 | Diagnostik und Therapie von Knorpelverletzungen im Sport | Engelhardt , Martin (DE) Klinik für Orthopädie, Unfall- und Handchirurgie |
| | | Grim , Casper (DE) Klinik für Orthopädie, Unfall- und Handchirurgie |
| 2 / 3 | Diagnostik und Therapie von Bandverletzungen am Kniegelenk | Zantop , Thore (DE) Universitätsklinikum Münster |
| 3 / 3 | Prävention von Verletzungen des Kniegelenks
<i>Knee injuries rank among the most frequent sport injuries. So prevention has high importance in particular in contact sports and sports with high rotative loads. Prevention programs should be based on enlightenment as well as on a common and sport specific strength, balance and jump training.</i> | Jöllenneck , Thomas (DE) Klinik Lindenplatz GmbH |

108. Freitag 14.05.2010 | 17:00 - 18:30 | Saal 2 |  Symposium | Unterthema/Track: Kompressionstherapie
[3805]

Lymphologische Versorgung

Themenblock Vorsitz: **Reißhauer**, Anett , Dr. med. (DE) | Charité Campus Mitte Universitätsmedizin Berlin

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| 1 / 4 | Das Lymphödem - eine klinische Übersicht | Reißhauer , Anett (DE) Charité Campus Mitte Universitätsmedizin Berlin |
| 2 / 4 | Darstellen eines Beinödems durch 12 MHz Sonographie | Tanneberger , Amelie (DE) |
| 3 / 4 | Tiefenoszillation einzigartiges elektromechanisches Therapieverfahren
<i>Deep oscillation (DO) creates resonant vibration through an electromechanical therapeutic procedure based on electrostatic attraction, and friction. It's gentle non-invasive mode of action allows it to be used in various fields of therapy, including wounds, fresh injuries and acute pain.</i> | Sporbeck , Birte (DE)
Reinhold , Jens (DE) PHYSIOMED ELEKTROMEDIZIN AG |
| 4 / 4 | Eine Erhebung zur Lebensqualität bei Lymphödemerkrankungen | Taufmann , Ines (DE) Charité |

109. Freitag 14.05.2010 | 17:00 - 18:30 | Saal 3 | Themenblock | Unterthema/Track: Amputation/Prothetik
[3667]

Beinprothetik - Biomechanik 2

Themenblock Vorsitz: **Johannesson**, Anton , PhD (SE) | Ortopedteknik AB

Themenblock Vorsitz: **Lineham**, Marion , MPP (NZ) | New Zealand Artificial Limb Board

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| 1 / 5 | Design einer transtibialen Prothese für einkommensschwache Länder in den Tropen
<i>Prostheses than usually are delivered to TT amputees in Central America, aren't designed for to be used in humid environments for a long time. The existing for this purpose aren't of easy acquisition. We elaborate one design with appropriate technology that can supplement the needs in the region.</i> | Quintanilla , Andrea (SV) Don Bosco University
Arevalo , Melvin (SV) Don Bosco University
Castaneda , Monica (SV) |
| 2 / 5 | Ergebnisse eines standardisierten chirurgischen Eingriffes und Rehabilitationsprogrammes für transtibiale Amputationen bei arterieller Verschlusskrankheit - eine 10jährige Kohortenstudie
<i>217 consecutive patients (mean age 77 yr), underwent TT amputation for PVD (51% with diabetes). More than half of all amputees and more than 80% of those who had walking ability prior to amputation and survive at least 3 months can be fitted with prosthesis.</i> | Johannesson , Anton (SE) Ortopedteknik AB |
| 3 / 5 | Ein neuer Verbundstoff mit natürlicher Verstärkung (Alfafaser) für die Herstellung von Beinprothesen
<i>The elaboration of a nonweaven material from a natural fiber, available in Tunisia (alfa fiber), allows the fabrication of lower limb prostheses which was tested on laboratories and by some patient through a clinical testing delivered by an ethical committee. After one year the result was conclusive.</i> | Chaker , Adel (TN) LRBBO |

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| 4 / 5 | <p>Risiken eines mechanischen Ausfalls und Knochengeweberemodellierung nach der Implantation von osseointegrierten transfemorale Prothesen.</p> <p><i>In this study we used the finite element method to assess failure risk and long-term bone turnover around two existing osseointegrated trans-femoral implants. The performed analyses can be used to improve direct bone fixation devices and allow more patients to benefit from their advantages.</i></p> | <p>Tomaszewski, Pawel (NL)
 University Medical Center Groningen, University of Groningen</p> |
| 5 / 5 | <p>Parameter von Neuseelands "Artificial Limb Board" - prothetische Ergebnisse und organisatorische Zugewinne</p> <p><i>The NZALB introduced a package of outcomes measures on 1 July 2006. Results reported in this paper will contribute to benchmarks in the future and provide data for research. The outcomes measures project has provided many benefits to amputees and to the organisation.</i></p> | <p>Lineham, Marion (NZ) New Zealand Artificial Limb Board</p> |

110. Freitag 14.05.2010 | 17:00 - 18:30 | Saal 4 | Themenblock | Unterthema/Track: Orthetik
[3676] **Orthetik - untere Extremität**

Themenblock Vorsitz: **Solomonidis, Stephan (GB)** | University of Strathclyde

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| 1 / 4 | <p>Funktionale Beurteilung und Indikatoranalyse der UCBL-Fußorthese für pädiatrische Patienten mit flexiblen Senk-Plattfuß</p> <p><i>UC-BL foot orthosis is commonly prescribed to correct the alignment and relieve the symptom of flexible flat foot, but its ability of functional improvement is still unclear. In this research, the effect of UC-BL foot orthosis in physical and functional modulation was determined.</i></p> | <p>Wu, Kit (HK) Hospital Authority</p> |
| 2 / 4 | <p>Orthesen für den Scherengang</p> <p><i>Objective To investigate the cause of spastic disorders of scissors step (adductor muscle increased muscle tension) in syndrome, by wearing braces to overcome the scissors-step to achieve the symptom improvement.</i></p> | <p>Yin, TianQiao (CN) Beijing Huici Artificial Limb medical Appliances Co., Ltd.</p> |
| 3 / 4 | <p>Was wäre die beste Leistung für paraplegische Menschen beim Gehen mit einer reziproken Gehorthese (RGO)?</p> <p><i>Different types of orthoses have been designed for SCI subjects, however all of them have problems. A new type of orthosis was designed and tested during walking of normal subjects. The result showed there is a huge gap between the function of the normal subjects in walking with and without orthosis</i></p> | <p>Solomonidis, Stephan (GB) University of Strathclyde</p> |
| 4 / 4 | <p>Dynamik der reziproken Gehorthese (RGO)</p> <p><i>The gaits of 5 RGO users were analyzed to identify ways to improve gait efficiency. Heavy load bearing through the arms, limited action of the reciprocal link, and poor conservation of mechanical energy were observed. The causes of these phenomena and their effects on gait efficiency are discussed.</i></p> | <p>Johnson, William (US) Northwestern University</p> |

111. Freitag 14.05.2010 | 17:00 - 18:30 | Saal 5 |  Symposium | Unterthema/Track: Neuroorthopädie
[3719] **Paraplegiologie**

Themenblock Vorsitz: **Meiners, Thomas**, PD Dr. med. (DE) | WERNER-WICKER-KLINIK Zentrum für Rückenmarkverletzte

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| 1 / 5 | <p>Fortschritte in der Neuroregeneration und Rehabilitation nach Wirbelsäulenverletzungen</p> <p><i>Clinical recovery after spinal cord injury (SCI) can be attributed to mechanisms of functional compensation, neural plasticity and/or repair as has been established for other disorders of the central nervous system (CNS), i.e. stroke.</i></p> | <p>Curt, Armin (CH) Uniklinik Balgrist</p> |
| 2 / 5 | <p>Motion Therapy @home - erste Ergebnisse einer Studie zu einem neuen roboterhaften Gerät für die Bewegungstherapie zu Hause bei Patienten mit inkompletter Rückenmarkverletzung</p> <p><i>A pneumatically driven orthosis "MoreGait" has been developed for an automated locomotion training at home. It generates the key afferent stimuli for the central pattern generator. First applications in chronic spinal cord injured subjects show significant improvements of gait speed and endurance.</i></p> | <p>Rupp, Rüdiger (DE) Stiftung Orthopädische Universitätsklinik Heidelberg</p> |

3 / 5	The Role of the Diaphragm Pacing in Replacing, Delaying and Decreasing Mechanical Ventilators: From Spinal Cord Injured Patients to the Future Role in a Pandemic <i>Diaphragm Pacing (DP) can replace ventilators in tetraplegics greatly increasing their quality of life. For any patient on a ventilator, DP would decrease the time on ventilators by maintaining Type 1 muscle fibers and improving posterior lobe lung ventilation.</i>	Onders, Ray (US) University Hospitals Case Medical Center , Case Western Reserve University Schoo. of Medicine
4 / 5	Roboter assistierte Rehabilitation bei Tetraplegikern <i>Robotic devices have been developed to train upper extremity function, especially for patients with stroke, and are currently being applied to patients with quadriplegia. First experiences will be presented on the applicability of the upper extremity robotic devices in quadriplegic patients.</i>	van Hedel, Hubertus (CH) Balgrist University Hospital
5 / 5	Biomechanik der Decubitalulcera	Meiners, Thomas (DE) WERNER-WICKER-KLINIK Zentrum für Rückenmarkverletzte

112. [3750] Samstag 15.05.2010 | 08:00 - 09:15 | Saal 2 | Advanced Instructional Course | Unterthema/Track: Fuß und Schuh
Klumpfuß

Themenblock Vorsitz: **Böni, Thomas**, Dr. med. (CH) | Uniklinik Balgrist

1 / 5	Veränderte Klumpfußversorgungs-Konzepte - aus geschichtlicher Sicht <i>Since Hippocrates treatment concepts in clubfoot underwent significant changes. Based on a concise historical overview of the main therapeutical approaches the lecture will focus on the detection of an underlying pattern.</i>	Böni, Thomas (CH) Uniklinik Balgrist
2 / 5	Pathoanatomiebasierete Klumpfußversorgung bei Kindern - die Ponseti-Methode <i>The pathoanatomy of the clubfoot can be understood as a maximum supination of the hind foot with disrupted fore-hind foot alignment. Under this assumption the Ponseti method corrects the fore-hind foot-alignment and reduces the hind foot with manipulation of the calcaneo-pedis-block. Serial casting and consequent splinting maintains the results of the manipulations.</i>	Rödl, Robert (DE) Universitätsklinikum Münster
3 / 5	Haltungen der Orthopäden und Orthopädietechniker zur Behandlung des Pes Equinovarus Congenitus <i>The Authors present surgical and nonoperative treatment of pes equinovarus congenitus with a special attention being paid to Ponseti's method combined with a substantial share of orthotic treatment on the therapeutic results.</i>	Huraj, Emil (SK) Children University Hospital, Bratislava
4 / 5	Ergebnis der Ponseti Methode zur Versorgung des Klumpfußes in Tansania	Tuni, Walter A. (TZ) Comprehensive Community Based Rehabilitation in Tanzania (CCBRT) - Disability Hospital
5 / 5	Die Balgrist-Klumpfußorthese in der Nachbehandlung des kindlichen Klumpfußes	Lentz, Sharon (CH) Balgrist Tec AG

113. [3792] Samstag 15.05.2010 | 08:00 - 09:15 | Saal 3 | Advanced Instructional Course | Unterthema/Track: Orthetik
Optimierung der Verwendung von CAD/CAM Programmen in der Orthetik

Themenblock Vorsitz: **Saunders, Carl** (CA) | Vorum Research Corporation

1 / 5	Überblick zu Canfit CAD/CAM für orthetische Hilfsmittel	Saunders, Carl (CA) Vorum Research Corporation
2 / 5	Klinische Fallstudien zu komplexen Sitzlösungen mit CAD/CAM Anwendungen	Flageul, Jean-Yves (FR) Orthopedie Regnier SAS
3 / 5	CAD/CAM - Gestaltung und Fertigung von Stehschalen	Ceder, Michael (SE) Team Ortopedteknik AB
4 / 5	CAD/CAM für AFOs - Zentralfertigung	Dowell, Jennifer (CA) Orthomerica Productions Inc
5 / 5	CAD/CAM Technologie für individuell hergestellte Einlagen	Handford, Chris (CA) Vorum Research Corporation

114. [3855] Samstag 15.05.2010 | 08:00 - 09:15 | Saal 4 |  Advanced Instructional Course | Unterthema/Track: Fuß und Schuh
Verordnete Schuhe handwerklich hergestellt – Vermischung von Tradition und kundenindividueller Massenfertigung


Themenblock Vorsitz: **Jones, Derek**, PhD, M.B.A. (UK) | University of Strathclyde

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| 1 / 4 | Einführung
<i>This instructional course examines the challenges and opportunities of providing fashionable prescription footwear across the full spectrum of stock, modular and bespoke designs.</i> | Jones, Derek (UK) University of Strathclyde |
| 2 / 4 | Klinische Anforderung an verordnete Schuhe
<i>It is important when assessing patients for the prescription of footwear that a systematic approach is taken. The aim of this presentation to describe such an approach, which ensures that clinical requirements are specified and captured in a way that appropriate footwear can be designed and manufactured.</i> | Munro, William (UK) Anatomical Concepts (UK) Ltd |
| 3 / 4 | Verordnete Schuhe maßgeschneidert – Herausforderung und Chance
<i>Bolton Bros Ltd have specialised in made-to-measure and bespoke shoes since 1952 and have refined their design and production technology over the years. With bespoke footwear, technology helps - but doesnt yet guarantee success. We look at critical success factors.</i> | Bolton, Jonathan (UK) Bolton Brothers Ltd |
| 4 / 4 | Verordnete Schuhe - Technologie zur Herstellung modischer und funktionaler Schuhe
<i>Technology for the design and manufacture of prescription footwear must address the issues of "Function", "Form" and "Fashion" to be of value. The clinical and manufacturing demands must be met. In addition, individuals who require prescription shoes want to be delighted by what they receive. This session will examine some of the technologies that aim to make this possible.</i> | Klaveness, Björn (NO) Klaveness Skofabrik AS |

115. [3618] Samstag 15.05.2010 | 08:00 - 09:15 | Saal 5 |  Basic Instructional Course | Unterthema/Track: Verschiedenes
ICF und ISO Terminologie zur Spezifizierung des Verwendungszweckes und der Funktionalität von Orthesen und Prothesen

Themenblock Vorsitz: **Bougie, Theo** (NL) | BRT-ADVIES

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| 1 / 1 | Terminologie zu Prothesen und Orthesen von der ICF und ISO 9999 | Heerken, Yvonne (NL) NPi |
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116. [3791] Samstag 15.05.2010 | 09:30 - 10:00 | Saal 1 |  Keynote-Vortrag
40 Jahre Sportschuhforschung – ein Zwischenstand

Keynote Redner: **Milani, Thomas**, Univ.-Prof. Dr. (DE) | Technische Universität Chemnitz

Zusammenfassung: *Vor ca. 40 Jahren wurde der Sportschuh in das Zentrum biomechanischer Forschung gerückt. Insbesondere die Verletzungen, die durch den Sport und den Sportschuh verursacht werden, werden seitdem intensiv erforscht. Selbst in wissenschaftlichen Disziplinen wie in der Neurophysiologie und Psychologie, die vordergründig nur wenig mit Sportschuhen in Verbindung gebracht werden, wurden zahlreiche Studien durchgeführt, die zum Erkenntnisgewinn im Bereich der Interaktion von Sportler und Sportschuh beitragen sollten. Es stellt sich die Frage, welche Erkenntnisse aus den zahlreichen Studien gewonnen werden können und wie diese Erkenntnisse die Entwicklung der Sportschuhe im Laufe der 40 Jahre beeinflusst haben.*

117. [3668] Samstag 15.05.2010 | 10:30 - 12:00 | Saal 1 | Themenblock | Unterthema/Track: Amputation/Prothetik
Beinprothetik - funktionale Fußpassteile

Themenblock Vorsitz: **Alimusaj, Merkur**, Dipl.-Ing. (DE) | Orthopädische Universitätsklinik Heidelberg

Themenblock Vorsitz: **Gauthier, Pierre** (CH) | International Committee of the Red Cross

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| 1 / 7 | Anwenderorientierte Auswahl an Prothesenfüßen aufgrund ihrer mechanischen Eigenschaften
<i>The presentation will focus on mechanical testing of prosthetic feet and how testing can be related to clinical practice. Mechanical testing methods,</i> | Schneider, Gregory (US) Otto Bock HealthCare LP |
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correlations to clinical and biomechanical properties and methodologies for prosthetic foot selection based on verifiable properties will be discussed

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| 2 / 7 | <p>Kinematik und Kinetik des Gelenkes eines transtibial Amputierten während des Überwindens von Stufen und Rampen mit einem adaptiven Knöchel-Fuß-System
<i>The effects of a new adaptive prosthetic ankle were investigated in transtibial amputees (TTA) during ambulation on stairs and ramps using instrumented 3D-gait analysis. Significant improvements in kinematics and kinetics were found when walking with the adapted compared to the non-adapted ankle.</i></p> | <p>Alimusaj, Merkur (DE)
Orthopädische Universitätsklinik
Heidelberg</p> |
| 3 / 7 | <p>Nützen Prothesen-Knöchel-Einheiten bilateral transfemorale Amputierten?
<i>Quantitative analyses were conducted on 4 male subjects with bilateral transfemoral amputations that walked with and without prosthetic ankle units. Increased ankle motion in the sagittal plane may improve the gait of persons with lower limb amputations while providing a more versatile prosthesis.</i></p> | <p>McNealy Jackson, Lexyne (US)
Northwestern University</p> |
| 4 / 7 | <p>Kinematik des Prothesenfußes in der Sagittalebene - berechneter Gelenkdrehpunkt und Bewegungsumfang
<i>This study aimed to evaluate various prosthetic feet in ROM & centre of rotation in the sagittal plane. The results suggest that not only are prosthetic foot kinematics different from intact feet, the marker setup has an effect & results may not be generalizable between different prosthetic feet.</i></p> | <p>Rusaw, David (SE) Jönköping
University - School of Health
Sciences</p> |
| 5 / 7 | <p>Untersuchung der Eigenschaften von Prothesen-Knöchel-Komponenten in Bezug auf das Gleichgewicht während des Stehens auf schrägen, abschüssigen und ebenen Flächen
<i>Persons with transfemoral amputation increased energy consumption while standing on non-level surfaces with current prosthetic foot/ankle devices using a single stiffness value and alignment. Adapting foot/ankle alignment to sagittal plane surface slope significantly reduced oxygen consumption.</i></p> | <p>Ruhe, Brian (US) California State
University</p> |
| 6 / 7 | <p>Feldversuch und Folgemaßnahmen bezüglich der Lebensdauer eines Prothesenfußes in einkommensschwachen Nationen
<i>Thousands of prosthetic feet are used each year in many low-income countries. Following 2006*ISPO recommendations, manufacturing process improve over the years and continued monitoring on foot life span remains crucial. A part of laboratory test, field test play an important role in that prospect.</i></p> | <p>Gauthier, Pierre (CH)
International Committee of the Red
Cross</p> |
| 7 / 7 | <p>Auswirkung der Prothesen-Knöchel-Komponenten auf das Gangbild bilateral transtibial Amputierter
<i>The purpose of this investigation was to determine if increased prosthetic ankle motion improves walking performance of persons with bilateral transtibial amputations. Results indicate that prosthetic ankle components that permit greater motion provide substantial benefit during walking.</i></p> | <p>Gard, Steven A. (US)
Northwestern University
Prosthetics Research Laboratory
& Rehabilitation Engineering
Research Program</p> |


118.
[3940]

Samstag 15.05.2010 | 10:30 - 12:00 | Saal 2 | Symposium | Unterthema/Track: Sport

Paralympischer Sport

Themenblock Vorsitz: **van de Vliet**, Peter, Dr. (DE) | International Paralympic Committee (IPC)

- | | | |
|-------|---|---|
| 1 / 4 | <p>Technologie und Sport: Die Zukunft des Paralympischen Sports</p> | <p>van de Vliet, Peter (DE)
 International Paralympic
Committee (IPC)</p> |
| 2 / 4 | <p>Biomechanische Analyse des Laufens bei einem Amputierten</p> | <p>Potthast, Wolfgang (DE)
Deutsche Sporthochschule Köln</p> |
| 3 / 4 | <p>Sprint Beinamputierter aus biomechanischer Sicht
<i>The presentation starts with describing general essential biomechanical parameters of sprinting. This biomechanical view allows to define the specific handicap of sprinters provided with transfemoral and transtibial prostheses.</i></p> | <p>Schmalz, Thomas (DE) Otto
Bock HealthCare GmbH</p> |
| 4 / 4 | <p>An Argument for Assessing Lower-Limb Sprinting Prostheses Technology</p> | <p>Dyer, Bryce (GB) Bournemouth
University</p> |

119. Samstag 15.05.2010 | 10:30 - 12:00 | Saal 4 |  Symposium | Unterthema/Track: Fuß und Schuh
[3754]

Herstellung orthopädietechnischer Schuhe

Themenblock Vorsitz: **Böni**, Thomas , Dr. med. (CH) | Uniklinik Balgrist

Themenblock Vorsitz: **Feldmann**, Urs (CH) | Fuss-Orthopädie Feldmann AG

1 / 4 **Orthopädieschuhtechnik - Eine Übersicht der klassischen Anmess- und Fertigungstechniken** **Schievink**, Frank (DE) | ISPO Deutschland

2 / 4 **Hybridverfahren in der Fertigung** **Möller**, Michael (DE) | Möller Orthopädie Schuh Technik Münster


3 / 4 **Zeitsparendes und qualitativ hochwertigeres Leistendesign mit CAD/CAM Technologie für individuell geformte Leisten und maßgefertigte Schuh-Massenproduktion** **Winkler**, Patrick (CH) | Winkler ORTHO SCHUH TECHNIK

To an orthopaedic shoemaker the main advantage of CAD-CAM technology is its time-saving, coupled with high quality results. An objective criterion for patients' satisfaction with the said technology is when the patient orders a second pair of shoes using the same last.

4 / 4 **Klinischer Vergleich von scanner-gestützt und handwerklich hergestellten orthopädischen Maßschuhen (erste Ergebnisse)** **Illgner**, Ulrich (DE) | Uniklinikum Münster

120. Samstag 15.05.2010 | 12:00 - 13:30 | Foyer Säle | Poster Session | Unterthema/Track: Verschiedenes

Open Topics

121. Samstag 15.05.2010 | 13:00 - 13:45 |  Kongressvortrag

Easyline and Other CYS-Concepts: How to Save Money and Time Through a Patient-Oriented Approach in Orthopaedic Footwear Manufacturing

Referent/in: **Franssen**, Ivo M.C. (DE)