

INTERVIEW

**INTERVIEW WITH DANIEL P. BLOCKA,
PRESIDENT ISPO**

ISPO is a professional impartial and non-political body coordinating and advising on areas of prosthetics, orthotics and rehabilitation engineering. ISPO are heavily committed to scientific exchange, sharing of knowledge and professional experience, which benefits people with disabilities. Overall, ISPO has been a significant player in facilitating the continued growth and support of areas associated with prosthetics, orthotics and related rehabilitation areas.

President ISPO tells about the effect of the society on national policy in the field of rehabilitation, expresses his opinion on the growth of ISPO membership in Russia, the ways of cooperation between the international and Russian ISPO groups, He highly appreciated Leipzig orthopedic fair of 2008 and invited all the readers to attend the next fair in Leipzig in 2010, where the next ISPO congress will take place.

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**INTERVIEW WITH CARLOS CORDOBA,
PRESIDENT FEDOP, SPAIN**

FEDOP is one of the largest and most important professional organizations of prosthetists and orthotists in Spain, uniting above 95% orthopedic enterprises and including 16 regional societies. FEDOP is a direct representative of Spanish Ministry of Health and enters into the composition of INTERBOR. It is through INTERBOR that FEDOP cooperates with many national societies in Europe.

The main goal of FEDOP is promotion of professional education and participation in all orthopedic events in the country. FEDOP also supports specialists, providing consultations, editing a journal, and leading a website. Simultaneously with "People & Health", FEDOP is now holding an orthopedic congress ORTO and a fair ORTO PRO CARE.

Mr. Cordoba tells about Spanish market of prosthetic-orthopedic services and a system of training specialist in the field in Spain.

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**INTERVIEW WITH PRESIDENT
OF ALL-RUSSIAN PROSTHETISTS-
ORTHOPEDISTS GUILD ANATOLY N. KEYER**

All-Russian Prosthetists-Orthopedists Guild unites people of different specialties: orthopedists, technicians, engineers, physiotherapists, social workers, and businessmen in the field of supply of technical rehabilitation facilities and orthopedic care. The main goal of this non-profit organization is promotion of professional improvement and development of skill in rendering orthopedic care. Professor Keyer analyses

the state of art in the Russian orthopedic industry and reveals the main issues and difficulties in this sector of care. He stresses the importance and critical lack of qualified specialists in orthopedics and prosthetics in the present-day Russia. He criticizes a state service of medical-social examination for being a cumbersome superstructure with insignificant efficiency. Also, the President tells about the purposes of Guild cooperation with the international orthopedic associations such as INTERBOR and ISPO.

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INTERNATIONAL CONTACTS

The editorship are appreciated to the authors of papers below and the journal "Prosthetics and Orthotics International" for their kind permission to publish the Russian translations of these papers in our bulletin.

**OSTEOPOROSIS:
A FACTOR ON RESIDUAL LIMB PAIN
IN TRAUMATIC TRANS-TIBIAL AMPUTATIONS**

**K. Yazicioglu, I. Tugcu, B. Yilmaz, A.S. Goktepe,
H. Mohur**

Prosthetics and Orthotics International, vol. 32,
no. 2, PP. 172-8.

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**PREDICTORS OF QUALITY
OF LIFE AMONG INDIVIDUALS
WHO HAVE A LOWER LIMB AMPUTATION**

M. Asano, P. Rushton, W.G. Miller, B.A. Deathe

Prosthetics and Orthotics International, vol. 32,
no. 2, PP. 231-43.

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SCIENCE

**CHARACTERISTICS OF PROSTHETICS
IN CHILDREN WITH SEVERE LONGITUDINAL
REDUCTIONS OF UPPER EXTREMITIES,
MOSTLY ACCOMPANIED BY PREDOMINANT
PROXIMAL SEGMENTS MALFORMATIONS**

I.V. Shvedovchenko, G.N. Burov, A.A. Kortsov

Saint Petersburg Scientific-Practical Center of Medical-Social Examination, Prosthetics, and Rehabilitation of Disabled n. a. G.A. Albrecht, Saint Petersburg

Prosthetics in children with longitudinal reductions, in particular, with proximal ectromelia is one of the most difficult issues, mostly due to the fact that this severe pathology exists in children with normal IQ. Approach of most authors towards the age of primary prosthetics is similar, though no consensus is found as to the age when exterior sources of energy should be first applied in these patients. There is also significant divergence of approach to a criterion of prosthetics necessity between the Russian and foreign scientists.

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**EVOLUTION IN PROSTHETICS
IN CHILDREN WITH HAND DEFECTS**

A.A. Koryukov

Saint Petersburg Scientific-Practical Center of Medical-Social Examination, Prosthetics, and Rehabilitation of Disabled n. a. G.A. Albrecht, Saint Petersburg

People with congenital and acquired hand pathology are a special patient population, sometimes very significant. For example, in Russia one from every thousand newborn children has a hand deformity, which can later be a cause of disability. Finger injuries rank second to head trauma. 565 patients were evaluated, of which 580 (79%) were congenital and 154 (21,0%) were acquired. The author describes different characteristics of these patients and all types of prosthetic appliances applied at Albrecht childish center. A conclusion is made that prosthetics in these children is a final and necessary step of rehabilitation process, and all prostheses should have individual design. The author's experience proved that prosthetics in this patient population can be started as early as the first years of life.

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**CHARACTERISTICS OF BREAST EXO-
PROSTHETICS IN PATIENTS
WITH SECONDARY UPPER LIMB
POSTMASTECTOMY LYMPHOSTASIS**

**O.E. Gaevskaja, O.L. Belyanin,
K.K. Shcherbina, S.F. Kurdybailo**

Saint Petersburg Scientific-Practical Center of Medical-Social Examination, Prosthetics, and Rehabilitation of Disabled n. a. G.A. Albrecht, Saint Petersburg

The aim of this study was investigation of the effect of breast exo-prosthesis on the locomotion function of the upper extremity. 32 women hospital, who were admitted with the complications after radical breast cancer surgery, were evaluated at Albrecht Center. Patients were divided into groups depending on the degree of lymphostasis of the upper extremity. Conclusions were made that the asymmetry of position of a pressure center after radical mastectomy is compensated by the curvature of the spine; adequate prosthetics furthers to improving a pressure center. Different characteristics in patients with different degrees of lymphostasis were demonstrated.

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**NEW ASPECTS OF REHABILITATION
OF DISABLED WOMEN AFTER AMPUTATION
OF LOWER EXTREMITIES**

**A.K. Bykova, D.A. Niaury, K.K. Shcherbina,
S.F. Kurdybailo**

Saint Petersburg State University

Saint Petersburg Scientific-Practical Center of Medical-Social Examination, Prosthetics, and Rehabilitation of Disabled n. a. G.A. Albrecht, Saint Petersburg

Clinical records of 6211 disabled persons admitted to the departments of Albrecht Center for complicated and atypical prosthetics since 2000 through 2007. A subgroup of female patients of childbearing age (18 to 43 years) was included in the study. 7.5% patients of this subgroup had congenital and 35.2% post-amputation defects of lower extremities. The duration of period between amputation and primary prosthetics in these patients was from 1.5 to 18 months. Different complications and problems caused by this delay are analyzed.

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**SOME CHARACTERISTICS OF VOCATIONAL
REHABILITATION OF THE DISABLED
IN VIEW OF INNOVATION TECHNOLOGIES**

**I.N. Volkov, V.B. Variotsky, N.V. Dolbik,
V.V. Shpilevskaja**

Belarus Prosthetic-Orthopedic Rehabilitation Center, Minsk

The authors describe a system of vocational training of disabled people in Belarus Republic, including application of up-to-date innovation

technologies. A system of state social standards providing a guaranteed level of meeting the needs of disabled persons was developed and is being introduced in Belarus. These standards include monetary payments, free and available medical and social care, providing healthy life style etc. Since 2006 handicapped persons have undergone vocational education at Belarus Prosthetic-Orthopedic Rehabilitation Center in Minsk with a 400-hours program for a specialty "Computer operator". In 2007 90 disabled persons underwent training on computer technologies at the state organ of social defence.

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**APPLICATION OF INFRARED IMAGING
IN THE EVALUATION OF POSTMASTECTOMY
MICROCIRCULATION DISORDER
IN THE AREA OF UPPER EXTREMITIES**

O.E. Gaevsckaja, L.M. Smirnova

Saint Petersburg Scientific-Practical Center of Medical-Social Examination, Prosthetics, and Rehabilitation of Disabled n. a. G.A. Albrecht, Saint Petersburg

The purpose of this study was defining the possibilities and characteristics of infrared imaging evaluation of rehabilitation efficacy in patients having upper limb pathology after radical breast cancer surgery. 61 females aged from 32 to 68 years, treated at the orthopedic department of Albrecht Center, were included in the study. Examination before and after rehabilitation course was performed with a software complex "Thermals can", which allowed obtaining thermograms of breast and upper extremities. Asymmetry of temperature gradients of upper extremities and forearms were proved to be reliable parameters of microcirculation disorders.

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EXPERIENCE EXCHANGE

**SPECIAL CHARACTERISTICS
OF REHABILITATION MODALITIES
WITH THE USE OF RECIPROCAL APPARATUS
(RGO) IN CHILDREN SUFFERING
FROM NEUROLOGICAL DISEASES**

**V.G. Petrov, I.N. Chernyshova,
E.V. Vareshnyuk, S.V. Kovaleva**

Ukraine Research Institute of Prosthetics and Rehabilitation, Kharkov

25 children from 3 to 18 years old underwent rehabilitation for severe locomotion damage and inability of vertical standing and walking caused by neurological diseases. Patients were divided into three groups according to their neurological dysfunction: 1 - severe cerebral palsy; 2 - sluggish spinal paralysis; 3 - progressive muscular dystrophy. The authors have developed an algorithm of rehabilitation modality including different steps for each of above patient groups. Prognostic analysis of rehabilitation of patients with neurological defects using RGO was performed. Rehabilitation by this method furthered to improvement of their physical and psychic state and prevented visceral diseases, which suggests that it can be applied at rehabilitation centers.

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**METHODS OF PREPARING PATIENTS
WITH AMPUTATION DEFECTS
OF LOWER EXTREMITIES
TO PRIMARY PROSTHETICS**

N.N. Koryanov, S.V. Kluchko

Pyatigorsk Prosthetic-Orthopedic Enterprise

The objective of this study was identifying the main issues inhibiting primary prosthetics in patients with amputation defects of lower extremities. In the period from January 2006 through March 2008, 408 patients aged from 22 to 70 years (82% above 40 years old) with amputation defects of lower extremities at the hospital of complicated and atypical prosthetics of Pyatigorsk Prosthetic-Orthopedic Enterprise. While being at the hospital, 90.3% patients mastered independent walking on their prosthesis, mostly with a help of additional supports). Conclusion was made that to avoid such states inhibiting prosthetics as defective stump position, contracture of a superposed joint, and hypodynamia, prevention measures shall be taken. After amputation a stump should be immobilized in the position necessary for prosthetics. The authors suggest some methods for contracture prevention.

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A ROLE OF A DOCTOR IN ORTHOTICS OF TRAUMA PATIENTS

S.E. Nikitin, M.V. Parshikov, M.L. Petukhova

Central Institute of Traumatology and
Orthopedics; Parizo, Moscow

The aim of this study was to demonstrate that orthotics should and really can be an integral part of treatment process. This statement is illustrated by several clinical cases. It is necessary to develop an algorithm of application of modern orthoses of any level of complexity, provided with substantiated individual indications. In present Russiaq, three specialists jointly work in orthotics: doctor in charge, expert-doctor, and a doctor of medical department at a prosthetic-orthopedic enterprise.

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URGENT ORTHOTICS IN THE TREATMENT OF ADULT PATIENTS AFTER SKELETAL INJURIES

A.A. Steklov, V.V. Melnik

Central city clinical hospital, Uljanovsk

The paper contains an experience of express-orthotics in patients sustaining skeletal injuries at the trauma department of Central clinical hospital in Uljanovsk. Application of up-to-date polymer materials allowed achieving reliable immobilization, facilitating self-service of patients, accomplishing early and full rehabilitation, simplifying sanitary care, and improving patients' quality of life.

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METHODS & TECHNOLOGIES

DEL CAM SOLUTIONS IN DESIGN, MODELING, AND MANUFACTURE OF ORTHOPEDIC FOOTWEAR

K.G. Evchenko, A.I. Volokitin

Traditional technology of manufacture of orthopedic shoes needs high skill masters, the number of whom becomes less from year to year. A computerized technology of design and manufacture of orthopedic footwear suggested by Delcam Company allows complete automation of these processes, significantly decreasing the influence of the human factor. A three-dimensional scan of a patient's foot is a base for modeling a shoe. The 3D-model of a foot is being transferred to OrtoLast module, which designs and modifies the lasts. The authors describe all the steps of designing and fitting the last and producing a shoe.

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DEL CAM ORTHOMODEL: MANUFACTURE OF INDIVIDUAL ORTHOPEDIC FOOTBEDS

K.G. Evchenko, A.I. Volokitin

Orthomodel software program of manufacture of individual orthopedic footbeds is suggested by Delcam. Unlike the conventional technology presupposing much manual labor, this method allows for significant decrease of the time necessary for insole production, varying from several minutes to several hours. The method also permits simultaneous manufacture of several footbeds for different patients.

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