

# 4<sup>th</sup> Euro-Global Physiotherapy Congress 2017

December 07-08, 2017 Rome, Italy

## Keynote Forum Day 1

Euro Physiotherapy 2017





**Ivet B. KOLEVA**

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### Physical analgesia – state-of-the-art (Contemporary Rehabilitation methods for Pain relief)

Pain management is an important part of rehabilitation algorithms in clinical practice. **Pain** is one of the most frequent sensations, formed in the nervous system. By definition, pain is an unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage. The Declaration of Montreal of the International Pain Summit of the International Association for the Study of Pain (IASP) identifies that chronic pain is a serious chronic health problem and access to pain management is considered as a fundamental human right. We proposed the notion **physical analgesia** for the application of physical factors for pain management. By our opinion the anti-pain effect of physical modalities is very important, with a high level of efficacy. Physical analgesia has not side consequences and may be applied in combination with other therapeutic factors.

In physical analgesia a lot of **physical modalities** are applied:

- **Preformed modalities:** Low frequency currents and low frequency modulated middle frequency currents (sinusoidal-modulated, interferential, Kots currents); Transcutaneous electroneurostimulation (TENS); High frequency currents (*diathermy, ultra-*

*high frequency currents, decimeter and centimeter waves*); Ultra-sound and phonophoresis with NSAIDs; Low frequency magnetic field; Deep Oscillation;

- **Natural modalities:** Kryo-factors (*ice, cold packs, cold compresses*); Thermo-agents (*hot packs, hot compresses*), Hydro- and balneo-techniques (*douches, baths, piscine*); hydro and balneo-physiotherapy techniques (*underwater massage, under water exercises, etc.*); Peloidotherapy (*fango therapy, thermal mud, sea lye compresses*); Physiotherapy techniques - stretching, post-isometric relaxation, manual therapy (traction, mobilization, manipulation); massages (manual and with devices; peristal, connective tissue massage, etc.);
- **Reflectory methods:** electrotherapy, thermotherapy and physiotherapy in reflectory points and zones; acupuncture, laserpuncture, acupressure, etc

We propose our own theory for explanation of **pathogenetic mechanisms** of action of physical modalities on the nociceptive and neuropathic pain: *By influence on the cause for irritation of pain receptors* - consequence of stimulation of circulation, metabolism and trophy of tissues (by low and medium frequency electric currents, magnetic field, ultrasound, He-Ne laser; massages; manual techniques); *By blocking of*

nociception (low frequency currents, including transcutaneous electrical nerve stimulation or TENS; lasertherapy); By inhibition of peripheral sensitization (low and middle frequency currents, TENS; magnetic field; lasertherapy); *By peripheral sympaticolysis* (low frequency currents like dyadinamic currents, peloids); *By stopping the neural transmission (by C and A $\delta$  delta - fibers) to the body of the first neuron of the general sensibility* (iontophoresis with Novocain in the receptive zone – the region of neuro-terminals); *By input of the gate-control mechanism* (TENS with frequency 90-130 Hz and interferential currents with high resulting frequency - 90-150 Hz); *By activation of the reflectory connections: cutaneous – visceral, subcutaneous-connective tissue-visceral, proprio-visceral, periostal-visceral and motor-visceral* (classic manual, connective tissue and periostal massage, post-isometric relaxation and stretching-techniques); *By influence on the pain-translation in the level of posterior horn of the spinal medulla – using the root of activation of encephalic blocking system in the central nervous system* (increasing the peripheral afferentation) *and influence on the descending systems for pain – control* (TENS with frequency 2-5 Hz and interferential currents with low resulting frequency 1-5 Hz, acupuncture and laserpuncture; reflectory and periostal massage, zonothrapy, acupressure, su-dgok massage;

preformed factors in reflectory zones /palms of hands, plants of feet, paravertebral points; zones of Head, of Mackenzie, of Leube-Dicke, of Vogler-Krauss/); *By inhibition of central sensitization* (lasertherapy; peloidotherapy; physiotherapy); *By influence on the psychic state of the patient – the drug «doctor» and the drug «procedure».*

*The influence of physical modalities on the interstitium ('milieu interieur' of Claude Bernard) is the theoretical base for a combined pain management programme.*

We present our own **experience and results** in patients with conditions of the nervous and motor systems

**Keywords:** pain, physical analgesia, rehabilitation methods

### Biography

Philosophy Doctor - scientific specialty "Physical Therapy and Rehabilitation"; thesis (2004): 'Investigation of capacities of some physical modalities in the prevention, therapy and rehabilitation of diabetic polyneuropathy patients'. Doctor of Medical Sciences - scientific specialty "Physical Therapy and Rehabilitation"; thesis (2009): 'Complex neurorehabilitation algorithms for functional recovery and amelioration of independence in activities of daily living in socially significant invalidating neurological diseases'. Philosophy Doctor - scientific specialty "Pedagogics"; thesis (2013, Sofia University): 'Innovations in the Education in the field of Rehabilitation'. SCIENTIFIC POSITIONS: Associated Professor (2006); Professor (2010); scientific specialty "Physical Therapy and Rehabilitation". High Attestation Commission at the Council of Ministers, Bg. She knows French, Spanish, English, Russian language.

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Maria Isabel Dias da Costa Malheiro, J Phys Ther Sports Med 2017



## Maria Isabel Dias da Costa Malheiro

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### Effects of an educational program for self-management, on functional independence of adolescents with spina bifida

**Background:** The number of children with spina bifida (SB) who survived reaching adulthood increased significantly and their adolescence transition is a major concern. The purpose of this study is to develop and evaluate an educational program that promotes self-management competencies and facilitate their transition to adulthood.

**Methods:** An intervention based on psychoeducational strategies was embedded within a summer camp experience (7 Sessions). 56 adolescents with SB, aged between 10 to 18 years preformed the program and assess their effect on functional independence, self-concept and self-esteem. With a before (T1) and after (T2 and follow-up T3) design, the analysis was performed using the program IBM SPSS Statistics 20, ANOVA repeated measures.

**Results:** The adolescents made significant gains on functionality, cognitive and motor domains with moderate to high effect sizes observed. In the motor domain, we emphasize the improvement on self-care

and emptying dimension (bowel and bladder).

**Conclusions:** The program had greatest impact in the motor domain of the functionality (self-care, elimination, transfers), which remains six months later. This program produces better effects on young people aged between 10 and 12 years without previous experience on camps, regardless the gender, level of injury, presence of hydrocephalus or the type of auxiliary gait devices they use. In general, the results support that the experience improves the self-management competences and the functionality of youth with SB and, suggest that the program was highly effective.

### Biography

Maria Isabel Dias da Costa Malheiro is an Assistant Professor at the Nursing College of Lisbon, Child and Adolescent Department. She has completed her Doctorate in Nursing at the Lisbon University, Master's in Special Education, Faculty of Human Motricity and Graduate Nurse, Specialist in Child and Pediatric Health Nursing. She has started to work in the hospital since 1988, Neonatology, Pediatrics, Child Development Center. She was the Member of the Spina Bifida Center at Garcia de Orta Hospital until 2002. Since 2002, she has joined the academic career at Nursing College of Lisbon as an Assistant Professor. She collaborates with the Spina Bifida and Hydrocephalus Portuguese Association since 2002, was Vice-President from 2005 to 2013. She was the Coordinator of the project training camp - educational program for self-management on adolescents with spina bifida/spinal cord injury 2011, 2012, 2013, 2014, 2015 and 2016.

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## Olufunke Adewumi Ajiboye

Lagos University Teaching Hospital, Nigeria

### Correlation between the functional walking capacity and domains of health-related quality of life in individuals with bi-ventricular heart failure

**Background:** Individuals with heart failure present with progressive reduction in their functional capacity, their activity of daily living, thus result in poor quality of life.

**Objective:** The objective of this study was to correlate the functional walking capacity of individuals with bi-ventricular heart failure (BVF) as measured by Six Minute Walk Test (6MWT) with the disease specific health related quality of life domains using Kansas City Cardiomyopathy Questionnaire (KCCQ).

**Methods:** 66 subjects (female=37, 56%) with Chronic BVF in Class II and III of New York Heart Association with mean age  $54.0 \pm 1.6$  years recruited from a Nigerian Tertiary Hospital participated in the study. The Functional Walking Capacity of this patient was estimated using 6MWT to determine the 6MWD while the health-related quality of life was assessed using KCCQ. Data was analyzed using SPSS [IBM] version 21 and the significant level was set at  $p < 0.05$ .

**Results:** There was significant negative correlation between the 6MWD and six domains of QoL but only 2, Fatigue and dyspnoea were statistically significant. ( $r = -0.430$ ,  $p = 0.002$  and  $r = -0.285$ ,  $p = 0.045$ ) respectively. Positive correlation was also observed between 6MWD and overall QoL, knowledge and perception domains though the correlation was not significant.

**Conclusion:** This study showed that functional walking capacity is negatively correlated with some of the symptoms being experienced by individuals with Bi-ventricular heart failure.

### Biography

Olufunke Adewumi Ajiboye is the Director/Head, Physiotherapy in Lagos University Teaching Hospital, Lagos Nigeria. She is a Clinician/Researcher and teacher per excellence. She has published more than 17 papers in peer reviewed Journals of International Standard and has presented her research outcomes in more than 15 conferences both at national and international level. Her PhD thesis won the best award from the College of Medicine/Faculty of Pharmacy, University of Lagos during 2013/2014 convocation. Part of her research outcome won the best Poster Presentation Award from Africa Region in Singapore at World Confederation for Physical Therapy Congress in May 2015. Many of her research outcomes had won awards at national and international level. She has won Fellowship Award from Nigeria Society of Physiotherapy in 2014 and Award of Excellence from Nigeria Society of Physiotherapy in 2015. She was recently elected as a Council Member and the Vice President I of the Council of National Postgraduate Physiotherapy College of Nigeria. She is a Fellow and Member of Nigeria Society of Physiotherapy Reform Committee. Her area of speciality is Cardiopulmonary Physiotherapy.

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## Keynote Forum Day 2

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**Tomasz Karski**

Vincent Pol University, Poland

### Permanent ankle left joint distortion by drivers and right joint by passengers in countries with right rules of traffic- new syndrome- case report

Typical deformations and pain syndromes of feet deformations of feet in children and feet pain syndromes in adults are very common in many people, mostly in women in many countries. There are: static valgus or plano – valgus feet deformity in children and youth, insufficiency and pain by adults in frontal part of feet as result of limited plantar flexion of the toes, valgus deformity of the big toes (hallux valgus), Köhler's disease among girls wearing not proper shoes and congenital deformation of feet, needed special orthopedic program, often surgery, 6/deformations of feet, knee, pelvis and spine in children with Minimal Brain Dysfunction (MBD).

**Materials:** Presented in lecture - together: 28 patients and 24 cases with left ankle joint pain syndrome and 4 cases with right ankle joint pain syndrome. Material is from the years 2012 – 2016.

**Instability & Secondary Pain Syndrome of Ankle Joint:** The article describe this special type of foot insufficiency – “instability of ankle joint” and pain syndrome because of “permanent distortion of this joint” – the left ankle joint in drivers and right ankle joint in passenger in countries with “right traffic rules”. Till now never was described the “insufficiency of ankle joint”

because of instability of this joint as result of causes described by authors – its mean – getting out from the car on one leg. The symptoms of such illness can be not only in left or right foot but also in left or right knee. In our patients we observe: swollen foot, limited dorsal flexion of foot, painful region of Achilles and sinus tarsi. The gait was with limping or some patients were even not able to walk longer distance. Such instability, because of permanent distortion of ankle joint and can occur also among people doing some jobs – when exist permanent rotation movement of the whole body on full stabilized feet longer time, for example among the women working in kitchen.

**Treatment:** In our material we noticed, that the treatment in this group of patients, before contact with us, was mostly not proper and not leading to full recovery. This improper treatment was among presented patients even 4–5 years! In lecture we present cases of the feet problems and we discuss method of therapy and rules of prophylaxis. The article about this problem and proper therapy was publishing in USA in June 2017.

**Discussion & Conclusions:** We described the pathology syndrome of the ankle joint, the chronic distortion caused by rotation movement made during getting out the car. This is the new “Syndrome of Distortion and Following Instability of Ankle Joint. Unfortunately in all our patient the previous diagnosis was not proper and the therapy not leading to recovery. The illness can be the long time lasting problem - 4 or even 5 years. It is important - the proper diagnosis


and proper treatment with the information about the prophylaxis – getting out the car on both legs, without rotation movement of the body on stabilized feet.

## Biography

Tomasz Karski studied at Medical University in Lublin and received medical doctor certificate in 1961. During the studies he was active for three years in Students Scientific Orthopaedic Association and later after graduation he was the Assistant

Teacher for young student generation. In 1967 and next in 1971 he passed specializations degrees - first and second degree in Orthopaedic Surgery and Traumatology of movement apparatus. In 1972 he received the doctor degree and in 1982 after habilitation (colloquium before Medical University Council) he passed consecutive degrees to receive PhD degree and later became Assistant Professor. In 1993 he was awarded by full professor degree and title by President of Poland. Since 1st October 1995 to 2009 he was the Head of Chair and Department of Paediatric Orthopaedics and Rehabilitation of Medical University in Lublin/Poland, in the biggest Paediatric Hospital in Eastern Poland Region.

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**Tomasz Karski**

Vincent Pol University, Poland

**Biomechanical aetiology of the so-called idiopathic scoliosis [adolescent idiopathic scoliosis – AIS (1984/1995–2007)] role of “standing ‘at ease’ on the right leg” and “gait” in development of deformity**

**Introduction:** The biomechanical aetiology of the so-called idiopathic scoliosis [adolescent idiopathic scoliosis (AIS)] was the subject of research from 1984 (scholarship in Invalid Foundation Hospital in Helsinki) and next intensive in Poland from 1995 to 2007/2017 (T. Karski). The results of research were presented from 1995 in many Congresses and Symposia in Poland and abroad. First lecture was presented in Orthopaedic Congress in Hungary (T. Karski, Szeged, 1995). First publication was in Germany in 1996 – in Orthopädische Praxis.

**Material:** In 2016 the whole material gathered 2250 cases. Patients were two to 60 years old. Control group 360 persons.

**Explanation of Biomechanical Aetiology:** The development of scoliosis in points: A/ Asymmetry of hips movements – smaller adduction in straight position of right hip joints as one of symptoms of “Syndrome of Contracture” according to Prof. Hans Mau, B/ Permanent standing ‘at ease’ on the right leg and influence appearing during gait, C/ The asymmetry “of time of standing right/left leg” and asymmetry of movement

of hips and pelvis – during gait - makes asymmetry in development of spine – in result scoliosis. There are three groups and four types of scoliosis connected with special “model of hips movement” (2006). Every type of scoliosis starts to develop in 2nd–3rd year of life of children. New classification—three groups and four types - as important information for physiotherapy for causal prophylaxis and for therapy: “S” I etiopathological (epg) scoliosis double curves. Gibbous of the right side is influenced by the gait and the permanent standing at ease on the right leg stiff spine. 3D. progression “C” II/A epg scoliosis influenced by the permanent standing at ease on the right leg. One curve flexible spine and 1D no or slight progression “S” II/B epg scoliosis. Influenced by the permanent standing at ease on the right leg, plus- laxity of joints or/and incorrect exercises in previous treatment. Flexible spine 2D or mix moderate progression “I” III epg scoliosis influenced by the “gait” only. Stiff spine no curves or small. No progression. No included till now to scoliosis.

**Physiotherapy:** All previous extensions, its mean muscles strengthening exercises were incorrect and harmful, caused only bigger curves, bigger rib hump and made the spine more stiff. All stretching exercises for spine and hips are proper for treatment and for prophylaxis. The prophylactic exercises should be introduced in small children in age 3–5 years. Very important in therapy are: karate, taekwondo, aikido and standing ‘at ease’ on the left leg.


**Conclusions:** The aetiology of the so-called idiopathic scoliosis is strict biomechanical. There are three groups and four types of scoliosis – connection with “standing” and with “gait”. In therapy and in causal prophylaxis are important the new conception of therapy - the stretching exercises introduced very early, when we state the first symptoms of scoliosis.

### Biography

Tomasz Karski studied at Medical University in Lublin and received medical doctor certificate in 1961. During the studies he was active for three years in Students Scientific Orthopaedic Association and later after graduation he was the Assistant Teacher for young student generation. In 1967 and next in 1971 he passed specializations degrees - first and second degree in Orthopaedic Surgery and Traumatology of movement apparatus. In 1972 he received the doctor degree and

in 1982 after habilitation (colloquium before Medical University Council) he passed consecutive degrees to receive PhD degree and later became Assistant Professor. In 1993 he was awarded by full professor degree and title by President of Poland. Since 1st October 1995 to 2009 he was the Head of Chair and Department of Paediatric Orthopaedics and Rehabilitation of Medical University in Lublin/Poland, in the biggest Paediatric Hospital in Eastern Poland Region.

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## Slavko Rogan

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### Extended perspective of sensorimotor training - do we train functionally enough?


The movement control and movement coordination are subject to the functional capability of the sensorimotor system. This includes the recording, its forwarding and the signal transmission. In everyday life, a muscle response must occur within a certain time frame, with the aim to stabilizing a joint or to keep the body in balance. For example, the quadriceps muscle must contract during walking within 125 to 200 ms or during stairs climbing within 100 to 150 ms. Implemented to treatment modalities, a frequency range between 3 and 6 Hz should be used. Sensorimotor training (SMT) is used in rehabilitation and prevention to improve the slowed muscle reflexes. This is usually done with the aid of active devices, such as whole-body vibration devices (WBV), as well as passive therapy devices, such as foam mats balance boards, etc. However, studies show that passive therapy devices produce primary weak stimuli below 3 Hz. The question that

arises is if these devices could produce the necessary stimuli for the sensorimotor system in order to obtain the desired motor response. On the one hand, the presentation takes up this question, examines various movements from everyday life and sports from the side of biomechanics and demonstrates which movement patterns are produced by active and passive training devices. On the other hand, the meaningful use and the requirements of such training devices in rehabilitation and prevention should be critically examined, analyzed and discussed.

### Biography

Slavko Rogan is a Lecturer and Research Scientist. He has a background in Physiotherapy, Osteopathy and further adult education. He works in the fields of Geriatrics, Musculoskeletal Disorders and Sport Science. His research interests focus on the development of exercise and training programs in elderly persons, investigation of manual therapy effectiveness and sensorimotor training and in the field of adult education he focusses on mentoring and (attended) self-study. In this field, he has authored more than 35 peer-reviewed articles in peer-reviewed journals in the field of Gerontology, Sport Science and Physiotherapy.

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### Syndrome of standing at ease on the right leg, pathological influence on shank, knee, hip and spine

**Introduction:** During the research on the so-called idiopathic scoliosis in years 1984 – 2007/2017 (T Karski – first lecture in Hungary/Szeged 1995) it was found that Syndrome of Standing ‘et ease’ on the Right Leg (SofSRL) play a very important role. Such standing over years is the causative influence on development of scoliosis in two etiological groups. It makes also influence on the anatomy and function of the right hip, right knee and right shank.

**Material:** In the years 1984–2016 we have examined 2550 person with scoliosis and very frequent we found also problems of the right hips, right knee, shank and foot. The age of our cohort of these patients was 2 to 88 years.

**How to Explain the Habit of Standing ‘At Ease’ on the Right Leg:** To make clear such manner of standing we must come back to the Syndrome of Contractures and Deformities described firstly and precisely by Prof. Hans May from Tübingen / Germany, next in Lublin (T. Karski). Among the deformities described by Prof. Mau as Siebenersyndrom the is also asymmetry of anatomy and function of pelvis and hips. We found limitation of adduction movement of the right hip (T Karski, 1995–2007) in examination in straight position of hip

joint. This limited adduction enables easy standing on the right leg and is deciding the “cumulative time of standing”. Our observation of patients and long lasting anamnesis with patients make clear that in the period of 10 years of life – everybody stand (only) 2 or 3 years. In our long observations (T Karski and J Karski) we found that children start to stand on the right leg in age of 2 years. Next observation had to confirm such standing also in persons in age of 50, and 60 and 70 years. So, the person of the age 70 years has the cumulative time of standing on the right leg 21 years!

**Influence SofSRL on the Spine, Right Hip, Right Knee, Shank and Foot:** Such standing is the cause of the so-called idiopathic scoliosis in I-st etiopathological group (epg) together with walking and is the cause solely / exclusively in II/A and II/B epg scoliosis group (T. Karski, 1995 – 2007). Standing on the right leg is also the cause of arthrosis of the right hip, is the cause of bigger right side varus deformity of shank and bigger valgus deformity of knee. Knowledge about SofSRL enables orthopedic surgeons and rehabilitation doctors proper and successfully treatment of ill people.

**Conclusions:** (1) Syndrome of Standing on the Right Leg is connected with the Syndrome of Contractures and Deformities (H. Mau, T. Karski, J. Karski) (2) Permanent Standing ‘at ease’ on the Right Leg is the cause of two groups of so-called idiopathic scoliosis in new classification (T. Karski, 1995 – 2007) (3) Permanent


standing 'at ease' on the right leg has also influence on right hip, knee and shank. This knowledge is very important in prophylaxis of scoliosis and arthrosis of the right hip, deformity of shank and knee.

## Biography

Tomasz Karski studied at Medical University in Lublin and received medical doctor certificate in 1961. During the studies he was active for three years in Students Scientific Orthopaedic Association and later after graduation he was the Assistant

Teacher for young student generation. In 1967 and next in 1971 he passed specializations degrees - first and second degree in Orthopaedic Surgery and Traumatology of movement apparatus. In 1972 he received the doctor degree and in 1982 after habilitation (colloquium before Medical University Council) he passed consecutive degrees to receive PhD degree and later became Assistant Professor. In 1993 he was awarded by full professor degree and title by President of Poland. Since 1st October 1995 to 2009 he was the Head of Chair and Department of Paediatric Orthopaedics and Rehabilitation of Medical University in Lublin/Poland, in the biggest Paediatric Hospital in Eastern Poland Region.

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