



## WELCOME TO SINGAPORE!

Dear Colleagues,

Welcome to Singapore at the **9th Interdisciplinary World Congress on Low Back & Pelvic Girdle Pain**.

In this brochure you will find the Preliminary Program. These series of programs, initiated in 1991 by Andry Vleeming and Vert Mooney aim to promote and facilitate interdisciplinary knowledge and to create a consensus on prevention, diagnosis and treatment of acute and chronic lumbopelvic pain. Held every three years the congress welcomes practitioners, academics, researchers and policymakers from all continents.

The theme of the 2016 World Congress is Progress in Evidence Based Diagnosis and Treatment. The program will be presented in the format of eight main sessions led by moderators and keynote speakers known for their expertise in selected areas followed by eight parallel sessions that highlight topic specific research. Eight primary subject areas will address the dominant theme which include:

- Anatomy and biomechanical research of the lumbo pelvic spine;
- Pelvic girdle pain (diagnostics, biomechanics, motor control and psychosocial aspects);
- Novel developments in spine surgery (in cooperation with North American Spine Society, NASS);
- Effective exercise, training and treatment modalities for the lumbopelvic spine;
- State-of the art in motor control: Now and the future;
- The role of fascia in lumbopelvic pain and stability;
- Emerging new treatments in low back pain, the clinical practice, how do we improve?
- Improving primary care for low back pain.

The pre- and post-congress workshops will share clinician experience in the management of lumbopelvic pain. Poster presentations will illustrate the worldwide research of new and innovative ideas in the field.

The congress is supported in cooperation with the Singapore Exhibition and Convention Bureau, North American Spine Society (NASS), Vert Mooney Spine and Sport Foundation, University of New England Medical faculty of Osteopathic Medicine USA, Department of Rehabilitation Sciences and Physiotherapy University of Ghent Belgium, as well as a wide array of academic societies from countries around the world.

Singapore is a vibrant city with a mixing pot of cultures, this is evident not only in the architecture but also in the food. From the tranquillity of the gardens to the unique markets or city shopping, we hope that besides hanging out with us at congress you are able to discover the real Singapore.

We also look forward to meeting many of you at the Congress Dinner, after all the hard work has been done. It will be an opportunity to relax and have fun with your colleagues.

We are happy that you could join us here in Singapore and we look forward to presenting a program of interest to all disciplines mentioned here above.

A warm welcome,

Andry Vleeming, Dinesh Verma, Ted Dreisinger  
Program Chairmen

### SCIENTIFIC COMMITTEE

Andry Vleeming, Belgium  
Dinesh Verma, Singapore  
Ted Dreisinger, USA  
Hanne Albert, Denmark  
Lieven Danneels, Belgium  
Jan Hartvigsen, Denmark  
Paul Hodges, Australia

Robert Schleip, Germany  
Britt Stuge, Norway  
Bengt Sturesson, Sweden  
Jaap van Dieën, The Netherlands  
Maurits van Tulder, The Netherlands  
Jeffrey Wang, USA

### LOCAL ORGANIZING COMMITTEE

Dinesh Verma, Singapore Exhibition and Convention Bureau, Singapore tourist board

### FACULTY

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Bruno Saragiotto, Australia  
Siobhan Schabrun, Australia  
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Jaap van Dieën, The Netherlands  
Linda van Dillen, USA  
Maurits van Tulder, The Netherlands  
Jeffrey Wang, USA  
Jan Wilke, Germany  
Alex Wolf, UK  
Francesca Wuytack, Ireland

### ACCREDITATION

The congress has submitted a request for accreditation to the European Accreditation Council for Continuing Medical Education (EACCME). The program has been granted **24 European CME credits by the European Accreditation Council for Continuing Medical Education (EACCME)**. Participants will receive a certificate of attendance with accreditation details by email on November 4. Through an agreement between the European Union of Medical Specialists and the American Medical Association, physicians may convert EACCME credits to an equivalent number of AMA PRA Category 1 Credits™.



## ENDORISING ORGANIZATIONS

- North American Spine Society (NASS)
- Singapore Exhibition and Convention Bureau (SECB)
- Singapore Physiotherapy Association
- Singapore Orthopaedic Society
- Department of Rehabilitation, Sciences and Physiotherapy, University of Ghent
- University of New England, Medical faculty of Osteopathic Medicine
- Afghan Association for Physical Therapy
- American Academy of Orthopaedic Manual Physical Therapy (AAOMPT)
- American Academy of Osteopathy (AOA)
- American Physical Therapy Association (APTA) Orthopaedic Section
- Asia-Oceania Society of Physical and Rehabilitation Medicine (AOSPRM)
- ASCOFI, Asociación Colombiana de Fisioterapia
- Asociación Española de Fisioterapia
- Association of Academic Physiatrists
- Association of Chiropractic, Malaysia
- Australasian College of Sports Physicians
- Australian Physiotherapy Association
- Australian Pilates Method Association
- Bahrain Physical Therapy Association (BPTA)
- Bangladesh Physiotherapy Association
- Belgian Back Society
- Cambodian Physiotherapy Association
- Canadian Academy of Manipulative Therapists
- Canadian Physiotherapy Association
- Canadian Physiotherapy Association-Orthopaedic Division
- Chiropractic and Osteopathic College of Australasia
- Chiropractic Association of South Africa
- Chiropractors' Association of Australia
- Danish Musculoskeletal Physiotherapy Ass. DMPA
- Danish Physiotherapy Association
- Elsevier Limited
- Emirates Medical Association and Physiotherapy Society
- European Chiropractors' Union (ECU)
- European Roling Association
- Exercise & Sports Science Australia ESSA
- Fascia Research Society
- Hong Kong Physiotherapy Association
- International Academy of Osteopathy (IAO)
- International Association of Structural Integrators
- International Federation of Orthopaedic Manipulative Physical Therapists (IFOMPT)
- International Federation for Manual and Musculoskeletal Medicine
- International Organization of Physical Therapists in Women's Health
- International Pelvic Pain Society
- International Society of Clinical Rehabilitation specialists (I.S.C.R.S.)
- International Society of physical and Rehabilitation Medicine (I.S.P.R.M.)
- Iran Sports Medicine Federation
- Irish Society of Chartered Physiotherapists
- Institute of Registered Myotherapists of Australia (IRMA)
- Japanese Society of Musculoskeletal Physical Therapy

- Japanese Physiotherapy Association
- Journal of Manipulative and Physiological Therapeutics
- Journal of Orthopaedic & Sports Physical Therapy JOSPT
- Journal of Rheumatology
- Korean Academy of Cyriax Orthopaedic Medicine
- Kuwait Physical Therapy Association
- Malaysian Physiotherapy Association
- Manipulation Association of Chartered Physiotherapists, UK
- Manual Therapy Association Belgium (MATHERA)
- McKenzie Institute International
- Musculoskeletal Physiotherapy Association (MPA)
- Myopain Seminars
- New Zealand Chiropractors Association
- New Zealand Manipulative Physiotherapist Association (NZMPA)
- Nepal Physiotherapy Association
- North American Institute of Orthopaedic Manual Therapy (NAIOMT)
- Ontario Association of Osteopathic Manual Practitioners
- Osteopathy Australia
- Osteopaths New Zealand
- Physical Therapy Association of the Republic of China – Taiwan
- Philippine Physical Therapy Association
- Saudi Association of Neurological Surgery
- Saudi Physical Therapy Association
- Sociedad Iberoamericana de Información Científica (SIIC)
- Sociedade Brasileira de Fisioterapia
- SOMTY Finnish Association of Orthopaedic Manual Therapists
- SOTO-USA
- South African Society of Physiotherapy
- Spanish Association of Physiotherapists
- Spine Society of Australia
- Swedish Naprapathic Association
- Taiwan Physical Therapy Association
- Registered Massage Therapist Association of British Columbia
- The Rolf Institute of Structural Integration
- The Vert Mooney Spine & Sport Foundation
- Turkish Physiotherapy Association
- World Confederation for Physical Therapy
- World Federation of Chiropractic
- World Spine Society - WSS





Please note: Wearing a badge is mandatory to have access to the congress area

## Program Sunday, October 30

Level 5

- 16.00 - 19.00 **Registration**
- 17.00 - 18.30 **Welcome Reception**

## Program Monday, October 31

Level 5

- 07.00 **Registration**

### Main Session

Sands A

- 08.25 **Welcome**  
Andry Vleeming, Dinesh Verma, Ted Dreisinger
- Anatomy and biomechanics: Evidence on motor control in diagnostics and training**  
Moderators: Jaap van Dieën & Andry Vleeming
- 08.30 **Introduction**  
Jaap van Dieën
- 08.35 **Methods to assess control of lumbar movement**  
Jacek Cholewicki
- 08.55 **Low-back pain and control of lumbar movement**  
Ryan Graham
- 09.15 **Low-back pain and control of segmental lumbar movement**  
Alan Breen
- 09.35 **Low-back pain and trunk stabilization**  
Jaap van Dieën
- 09.55 **Exploring differences in spinal kinematics in subgroups during functional tasks**  
Rebecca Hemming
- 10.10 **Discussion**
- 10.30 **Morning Break**

### Pelvic girdle pain:

Sands A

#### Biomechanical and psychosocial aspects

Moderators: Britt Stuge & Annelie Gutke

- 11.00 **Introduction**  
Britt Stuge
- 11.05 **Severity and impact of pregnancy-related low back and pelvic girdle pain: Comparisons across United States of America, United Kingdom, Norway and Sweden**  
Annelie Gutke
- 11.20 **Prevalence of persistent pelvic girdle pain more than 10 years postpartum**  
Cecilia Bergström
- 11.35 **Towards a greater understanding of mechanical dysfunction in the pelvis?**  
Melanie Bussey
- 11.50 **Pelvic belt effects on sacroiliac joint pain: A combined in-silico and in-vivo approach**  
Niels Hammer
- 12.10 **Exercise levels before pregnancy: Does it affect pelvic girdle pain in pregnancy?**  
Katrine Owe
- 12.25 **Lunch Break**
- 13.25 **Diastasis rectus abdominus – Should we open or close the gap?**  
Diane Lee
- 13.45 **The impact of persistent pregnancy-related pelvic girdle pain: Women's perspectives**  
Francesca Wuytack
- 14.05 **The responsiveness of the pelvic girdle questionnaire**  
Britt Stuge
- 14.25 **Discussion**
- 14.45 **Afternoon Break**

**Novel developments in spine surgery**  
**In cooperation with NASS (North American Spine Society)**

Moderators: Jeffrey Wang & Bengt Sturesson

- 15.15 **Introduction**  
Eric Muehlbauer
- 15.20 **The presentation, workup, management of patients with SI joint pain**  
Heidi Prather
- 15.45 **The SI joint: Movement, stability, diagnostic tests and procedures leading to surgical treatment**  
Bengt Sturesson
- 16.10 **Movement Break**
- 16.15 **The controversies regarding the surgical treatment of SI joint disease**  
Jeffrey Wang
- 16.40 **Developing new technology and supporting evidence, barriers to market, developing guidelines for appropriate use**  
Eric Muehlbauer
- 17.05 **Discussion**
- 17.20 **Closure**

**The patient and the active therapeutical approach:  
Balancing between biomedical and psychosocial targets**

Moderators: Lieven Danneels & Andry Vleeming

- 08.00 **Introduction**  
Lieven Danneels
- 08.05 **Which issues need to be identified and addressed along with movement diagnosis?**  
Heidi Prather
- 08.25 **The potential role of adherence to improving low back pain outcomes**  
Linda van Dillen
- 08.45 **Peripheral back muscles dysfunctions and central pain mechanisms: An innovative perspective on differences between recurrent and chronic back pain**  
Lieven Danneels
- 09.05 **Importance of biomedical and psychosocial factors in clinical decision making and predicting future outcomes**  
Jon Ford
- 09.25 **Spinal exercise prescription in sport: Classifying physical training and rehabilitation by intention and outcome**  
Alex Wolf
- 09.40 **Morning Break**
- 10.10 **Who benefits most from individualised physiotherapy versus advice for low back disorders**  
Andrew Hahne
- 10.25 **Effects of individualised directional preference management versus advice for reducible discogenic pain**  
Jon Ford
- 10.40 **Discussion**
- 10.50 **End Discussion**
- 10.55 **Movement Break**



**State-of-the-art in motor control: Now and the future** **Sands A**

Moderators: Paul Hodges, Jaap van Dieën & Jacek Cholewicki

- 11.00 **Introduction**  
Paul Hodges
- 11.05 **Neuroplasticity and motor control: Latest evidence of sensorimotor system involvement in low back pain**  
Simon Brumagne
- 11.25 **Biological plasticity and motor control: The impact of modified biology from muscle to the immune system**  
Paul Hodges
- 11.45 **Are neuromechanics (motor control and biomechanics) relevant for low back pain and is this individual specific? Another view of “subgrouping”**  
Jaap van Dieën
- 12.05 **Lunch Break**
- 13.05 **Application of motor control to clinical practice: Common concepts with different views**  
Julie Hides
- 13.25 **What does the latest evidence tell us about the efficacy of training of motor control for low back pain?**  
Bruno Saragiotto
- 13.45 **People with low back pain display atypical responses to brain based treatments**  
Siobhan Schabrun
- 14.00 **Discussion**
- 14.15 **End Discussion**



**Parallel Session I** **Sands A**

**Anatomy and biomechanics**

Moderators: Jaap van Dieën & Andry Vleeming

- 14.25 **Introduction**  
Jaap van Dieën
- 14.30 **Sagittal whole-body postural balance: The missing link between sagittal spinopelvic alignment and coronal plane trunk asymmetry?**  
Mieke Dolphens
- 14.40 **Mechanical perturbations of the walking surface reveal unaltered axial trunk stiffness in chronic low back pain patients**  
Maarten Prins
- 14.50 **A comparison of spinal tissue loading created by spinal manipulative therapy (SMT) and passive lumbar movements**  
Martha Funabashi
- 15.00 **Age-related different needs for car seat design: Needs transition from lumbar to thoracic support**  
Gyouhyung Kyung
- 15.10 **Spinal and pelvis alignment in women with and without pelvic organ prolapse**  
Farideh Dehghan Manshadi
- 15.20 **Shorter lumbar paraspinal fascia is associated with high intensity low back pain and disability**  
Tom Ranger
- 15.30 **Afternoon Break**
- 16.00 **Does spinal stiffness differ between people with and without low back pain?**  
Arnold Wong
- 16.10 **Muscular power during a lifting task in physically active and sedentary young adults**  
Erika Zemkova
- 16.20 **Tension in the lumbar myofascial ring: Effects of rectus abdominis contraction on the lumbar spine**  
Mark Schuenke
- 16.30 **Discussion and Closure**



Parallel Session II

Part A: Spinal Surgery

Moderators: Jeffrey Wang & Bengt Sturesson

14.25 Introduction

Jeffrey Wang

14.30 Lumbosacral radicular syndrome: A new clinical decision-making model to optimize spinal surgical referral following a trial of physiotherapy management

Lynn Bardin

14.40 Results on 750 patients with degenerative spondylosis treated by minimally invasive surgery: Unilateral osteotomy (grad I or II), interspinous arthrodesis or both

Franco Caputi

14.50 The concept of Miss & Interlaminar dynamic stabilization in lumbar degenerative cascade

Bambang Darwono

15.00 Biological cell therapies for discogenic low back pain

Bruce Mitchell

15.10 Posterior dynamic stabilization in degenerative spondylolisthesis and posterior transpedicular dynamic stabilization versus total disc replacement in the treatment of lumbar painful degenerative disc disease: A comparison of clinical results

Tunc Oktenoglu

15.20 Posterior interbody fusion enhanced by cages and pedicular screw fixation: A review of 167 cases with follow-up of 4 to 9 years

Sabri El Banna

15.30 Discussion

15.40 Afternoon Break

Part B: Pelvic Surgery

16.10 Early result of SI-joint surgery with two new minimally invasive methods

Andreas Westberg

16.20 Gait, kinesiophobia and disability after minimally invasive sacroiliac joint fusion: Outcomes 6 and 12 weeks

Maria Stauffer

16.30 iMIA: A randomized controlled trial of minimally invasive SI joint fusion vs. conservative management

Djaya Kools

16.40 Fluoroscopy-guided sacroiliac intraarticular injection via the middle portion of the joint

Daisuke Kurosawa

16.50 Anterior arthrodesis of sacroiliac joint for severe sacroiliac joint pain: Minimum 5-year follow-up of 23 patients

Eiichi Murakami

17.00 Bilateral sacroiliac joint pain: Is bilateral fusion necessary?

W. Carlton Reckling

17.10 Discussion and Closure



## Program Wednesday, November 2

## Level 5

### Main Session

### Sands A

#### Connecting tissues: The role of fascia in lumbopelvic pain and stability

Moderators: Robert Schleip & Carla Stecco

- 08.00 **Introduction**  
Robert Schleip
- 08.05 **Role of fascia in non-specific low back pain**  
Carla Stecco
- 08.25 **Role of fascial contractility and fascial nociception in low back pain**  
Robert Schleip
- 08.45 **Myofascial chains revisited - Review of several suggested force transmission lines from evidence oriented perspective and with special focus on low back stability**  
Jan Wilke
- 09.05 **Sono-elastography: Real time measure of elastic properties of the lumbar fasciae in idiopathic low back and pelvic girdle pain**  
Wolfgang Bauermeister
- 09.25 **Interdisciplinary fascia therapy in chronic low back pain: An examination of therapy process and outcome at 18 months**  
Christopher Gordon
- 09.40 **Do exercises with the foam roll have a short term impact on the thoracolumbar fascia?**  
Annika Griefahn
- 09.55 **Discussion**
- 10.15 **Morning Break**
- Emerging new treatments in low back pain**
- 10.45 **Antibiotic and laser treatment in patients with chronic low back pain and Modic changes**  
Hanne Albert
- 11.10 **New directions for laser therapy**  
Jan Bjordal

#### The clinical practice how, why and what do we do, and how do we improve

### Sands A

Moderators: Hanne Albert & Bart Koes

- 11.35 **Introduction**  
Hanne Albert
- 11.40 **Barriers to health care professional adherence to clinical guidelines for the management of LBP**  
Susan Slade
- 12.00 **Can a tailored guideline implementation strategy change physiotherapy practice?**  
Maria Larsson
- 12.20 **What is really important for patients when they encounter a chiropractor, how do they evaluate the treatments**  
Corrie Myburgh
- 12.40 **Lunch Break & Poster Session**
- 13.40 **How an app can assist the physiotherapist in patients with herniation surgery**  
Servan Rooker
- 13.55 **Healthy lifestyle behaviour reduces the risk of long duration troublesome low back pain**  
Eva Skillgate
- 14.10 **Can ultrasound help the clinician in more precise palpation?**  
Greg Kawchuk
- 14.25 **Discussion**
- 14.45 **End Discussion**



**Sands A**

**Parallel Session III**

**Pelvic girdle pain**

Moderators: Britt Stuge & Annelie Gutke

14.55 **Introduction**

Britt Stuge

15.00 **Understanding the active straight leg raise: An electrographic study in healthy subjects**

Hai Hu

15.10 **Interventions for preventing and treating low-back and pelvic pain during pregnancy: An evidence update**

Sarah Liddle

15.20 **Risk factors for sick-leave due to lumbopelvic pain in late pregnancy**

Hilde Stendal Robinson

15.30 **Sacral transient osteoporosis of pregnancy is an underreported cause of pregnancy related lumbopelvic pain**

Monica Rho

15.40 **Afternoon Break**

16.10 **Postural control parameters and predictors of pregnancy-related pelvic girdle pain: A prospective cohort study**

Daniela Aldabe

16.20 **Consequences on health and function after a pregnancy with classified pelvic girdle pain: A longitudinal follow-up study**

Hellen Elden

16.30 **Imaging of the sacro-iliac joint in health and dysfunction**

Mel Cusi

16.40 **A comparison of PRP and hypertonic glucose injections in the treatment of mechanical SIJ incompetence**

Jeni Saunders

16.50 **Postural response of the pelvic floor muscles and muscles of the lower abdominal wall during the active straight leg raise in women with and without post partum pelvic girdle pain and a pilot study on effect of stabilizing**

Brigitta Öberg

**Sands B**

17.00

**Low level laser therapy in persistent pregnancy-related pelvic girdle pain - Study protocol**

Thomas Torstensson

17.10

**Reliability of a new measurement method for pelvic asymmetry using three-dimensional MRI models**

Kazuyoshi Gamada

17.20

**Discussion and Closure**

**Parallel Session IV**

**Improving Primary Care for Low Back Pain**

Moderators: Maurits van Tulder & Jan Hartvigsen

14.55

**Introduction**

Maurits van Tulder

15.00

**Pain-related sleep disturbance: A prospective study with repeated measures**

Iben Axén

15.10

**Simulation of multifactorial causes of low back pain**

Jacek Cholewicki

15.20

**Differential diagnosis of lateral hip pain**

Alison Grimaldi

15.30

**Prevalence and associated factors of low back pain in community-dwelling elderly women**

Hunkyung Kim

15.40

**Afternoon Break**

16.10

**Can the effect of medial branch blocks for painful zygapophysial joints be predicted by magnetic resonance imaging? A retrospective evaluation**

Stephan Klessinger

16.20

**Psychosocial factors in workplace injury - early screening to predict rehabilitation timeframe: A population based study**

Sareen McLinton

16.30

**Do physiotherapists consider questioning patients' illness perceptions during history taking?**

Nathalie Roussel



- 16.40 **The association of different sport activities with lumbar disc degeneration among young Finnish adults: A subsample of northern Finland birth cohort 1986**  
Jani Takatalo
- 16.50 **The role of sleep quality on spontaneous regression of intervertebral disc herniation**  
Alexander Tkachev
- 17.00 **Could low grade bacterial infection contribute to low back pain? A systematic review**  
Donna Urquhart
- 17.10 **Co-morbidities in women with vulvodynia: What are the clinical implications?**  
Ursula Wesselmann
- 17.20 **Discussion and Closure**



**Program Thursday, November 3**

**Level 5**

**Parallel Session V**

**Sands A**

**Parallel Session V(a): Lumbar pain**

Moderators: Andry Vleeming & Hanne Albert

- 08.00 **Introduction**  
Andry Vleeming
- 08.05 **Schmorl's nodes: Do they associate with degenerative lumbar spinal stenosis?**  
Janan Abbas
- 08.15 **An investigation of the MDT assessment using positional MRI**  
Lyndsay Alexander
- 08.25 **Classification criteria for neurogenic claudication caused by lumbar spinal stenosis**  
Stephane Genevay
- 08.35 **Biological gradient in the association between smoking and back pain in a cross-section of adult Americans**  
Claire Johnson
- 08.45 **Predictive factors of efficacy of transforaminal corticosteroids in patients with low back pain and radiculopathy**  
Rodger Laurent
- 08.55 **Is there evidence of change under MRI in acute low back pain?**  
John Panagopoulos
- 09.05 **Disc space narrowing in lumbar spine is associated with severe disability in chronic low back pain**  
Romain Perera
- 09.15 **Back Break**
- 09.20 **Non-steroidal anti-inflammatory drugs for low-back pain with sciatica**  
Eva Rasmussen Barr
- 09.30 **A systematic review and meta-analysis of prospective cohort studies investigating musculoskeletal risk factors for the development of low back pain**  
Sean Sadler
- 09.40 **Spinal angles in subjects with a history of flexion related back pain when performing a typing task**  
Valerie Sparkes



09.50 **Indicators of surgery in patients less than 60 years of age referred from the medical department for surgical assessment at a spine centre**  
Morten Sall Jensen

10.00 **Discussion**

10.10 **Morning Break**

### **Parallel Session V(b): Lumbar pain**

Moderators: Bart Koes & Robert Schleip

10.40 **Biopsychosocial risk factors associated with low back pain in stroke survivors**  
Claire Johnson

10.50 **Osteopathic treatment of patients with burnout syndrome accompanied by chronic non-specific low back pain**  
Andrey Lovchev

11.00 **Fear avoidance beliefs underlie differential brain processing in chronic low back pain patients compared to healthy individuals**  
Michael Meier

11.10 **Less lumbar fat infiltration and enhanced efficiency in muscle recruitment in RLBP compared to CLBP**  
Dorien Goubert

11.20 **Lumbar movement pattern during variations of a functional activity test in back-healthy people and people with low back pain**  
Andrej Marich

11.30 **Augmenting conventional treatment of non-specific low back pain with progressive goal attainment programme**  
Michael Ogunlana

11.40 **Use of musculoskeletal ultrasound to detect painful enthesopathies in low back pain**  
Plamen Todorov

11.50 **Number of weekly hours spent in sports is not related to current or future low back pain with consequences in a middle-aged sample of Danes from the population: A 9-year longitudinal cohort study**  
Per Kjaer

12.00 **Biopsychosocial exploration of pain profiles in inflammatory and chronic non-specific axial low back pain: An exploration of similarities and differences**  
Lolwah Al-Rashed



12.10 **Comparison of myofascial-trigger-point-release and core stabilization exercises on range of motion within patients with chronic low back pain: A randomized, controlled trial**  
Jan Vagedes

12.20 **Discussion**

12.30 **Lunch Break**

### **Parallel Session VI**

**Sands B**

#### **Parallel Session VI(a): Exercise and treatment**

Moderators: Lieven Danneels & Ted Dreisinger

08.00 **Introduction**  
Lieven Danneels

08.05 **Determining predictive outcome factors for a multimodal treatment program in low back pain patients: A retrospective cohort study**  
Rahmet Adnan

08.15 **Predictors of response and adherence to outpatient multimodal rehabilitation in patients with chronic low back pain: A cohort study**  
Evy Dhondt

08.25 **The one year results of lumbar transforaminal epidural injection in patients with chronic unilateral radicular pain: The relation to MRI finding and clinical features**  
Harald Ekedahl

08.35 **Inspiratory muscle weakness and balance complaints in individuals with low back pain**  
Lotte Janssens

08.45 **Perceived task complexity of abdominal hollowing and abdominal bracing trunk stability exercises**  
David MacDonald

08.55 **Effects of a prehabilitation program on the improvement of patients' clinical status and physical capacities while awaiting spinal stenosis surgery: A randomized controlled pilot trial**  
Andree-Anne Marchand





- 09.05 **The effect of pilates group exercises on transverse abdominal muscle thickness and functional and postural parameters in healthy females with non-specific chronic low back pain**  
Noelia Goldberg
- 09.15 **Combination of motor training with repetitive magnetic stimulation of multifides influenced brain motor function, pain and disability in chronic low back pain**  
Hugo Massé-Alarie
- 09.25 **Two-year follow-up of surgical therapy versus untreated observation for patients with intermittent claudication due to lumbar spinal stenosis after physical therapy**  
Masakazu Minetama
- 09.35 **LBP - What's next? The effectiveness of a stratified model for non-specific LBP in Danish primary care: A randomized controlled trial**  
Lars Morsø
- 09.45 **A systematic review on the effectiveness of physiotherapy in inflammatory low back pain**  
Deepak Sharan
- 09.55 **Discussion**
- 10.05 **Morning Break**
- Parallel Session VI(b): Exercise and treatment**  
Moderators: Lieven Danneels & Ted Dreisinger
- 10.40 **The effect of classification-based cognitive functional therapy on spinal regional kinematics and function in subgroups of chronic low back pain: Randomized clinical pilot study**  
Liba Sheeran
- 10.50 **Does change in isolated lumbar extension function correlate with positive clinical outcome?**  
James Steele
- 11.00 **Effects of core muscle pre-activation on the recruitment of hip muscles during hip exercises**  
Sharon Tsang
- 11.10 **Associations between digital posture assessment, low back pain and MRI-detected pathology in elite Olympic class sailors**  
Adrian Schultz



- 11.20 **The effects of a 6-week core stability program on side bridge endurance, lumbopelvic motor control and functional movement screen in healthy individuals**  
Tine Willems
- 11.30 **Effectiveness and cost-effectiveness of referral for early rehabilitation after lumbar discectomy**  
Maurits van Tulder
- 11.40 **Effectiveness and cost-effectiveness of radiofrequency denervation for chronic low back pain originating from the facet joints**  
**Effectiveness and cost-effectiveness of radiofrequency denervation for chronic low back pain originating from the sacroiliac joints**  
Esther Maas
- 11.55 **Discussion**
- 12.10 **Lunch Break**

## Parallel Session VII

Sands A

- Manual techniques**  
Moderators: Jan Hartvigsen & Britt Stuge
- 13.35 **Introduction**  
Jan Hartvigsen
- 13.40 **Outcomes of chiropractic distraction spinal manipulation on post-surgical continued low back and radicular pain patients: A retrospective case series study**  
James Cox
- 13.50 **Beliefs in the general population regarding the 'cracking' or 'popping' noise from spine thrust manipulation**  
Christophe Demoulin
- 14.00 **A comparison of the effects of connective tissue massage and classical massage on low back pain: A randomized controlled trial**  
Tim Hustad & Filip Danielsson
- 14.10 **Reliability and validity of an Iphone® application for the measurement of lumbar spine range of motion**  
Mohammad Reza Pourahmadi
- 14.20 **Discussion**
- 14.30 **Afternoon Break**



## Parallel Session VIII

## Sands B

### State-of-the-art: Motor control

Moderators: Paul Hodges & Jacek Cholewicki

13.30 **Introduction**

13.35 **Influence of fatigue on trunk muscles adaptations during sudden external perturbations**

Jacques Abboud

13.45 **Brain morphology is associated with motor control in patients with chronic low back pain: Preliminary results**

Jeroen Kregel

13.55 **Lumbar multifidus discharge characteristics after spinal manipulation**

Lise R. Lothe

14.05 **Targeting the cause, not just the symptoms: A new treatment for chronic low back pain: Results of the reactiv<sup>®</sup>-A trial**

Bruce Mitchell

14.15 **Intra- and inter-observer reliability of a sensor-based measurement of a lumbar repositioning test**

Lenie Denteneer

14.25 **A clinical test of lumbopelvic control: Discriminative capabilities and relation between movement pattern and muscle activation**

Jessica Van Oosterwijck

14.35 **Discussion**

14.45 **Afternoon Break**

## Main Session

## Sands A

### Improving primary care for low back pain

Moderators: Maurits van Tulder & Jan Hartvigsen

15.15 **Introduction**

Maurits van Tulder

15.35 **What is the role of imaging in low back pain patients in primary care?**

Tue Secher Jensen

15.55 **How can primary care clinicians become better at preventing work disability in low back pain patients?**

Bill Shaw

16.15 **Primary care for low back pain in the elderly**

Bart Koes

16.35 **The role of spinal manipulation in primary care for low back pain**

Jan Hartvigsen

16.55 **The role of alternative care in primary care for low back pain**

Maurits van Tulder

17.15 **Discussion**

17.30 **Closure**

19.30 **Congress Dinner - Clifford Pier\***

*\*The Clifford Pier is a 15 minutes' walk around Marina Bay. Warm up your legs in preparation for dancing! The walking group will depart at 19.10 sharp from the lobby of Tower 1*



Please note that you can still register for some of the workshops.  
Information available at the registration desk.

## Workshops Sunday, October 30

Level 5

### Workshop 1: The Fascial Manipulation© Technique for Low Back Pain: Anatomical bases and biomechanical model

Presenters: Carla Stecco & Tiina Lahtinen Suopanki (09.00 - 16.30 hrs)

### Workshop 2: SCORES Back Care Program: Assessment and retraining of the stabilizing muscles of the Spine

Presenters: Felicity Kermode, Dinesh Verma, Monica Verma (09.00 - 16.30 hrs)

### Workshop 3: Low back, Pelvic girdle and Optimal breathing - A workshop for dynamic pelvic floor and proper ventilation exercises together with optimal myofascial function as a part of low back rehabilitation

Presenters: Jouko Heiskanen, Mika Pihlman, Tuulia Luomala (09.00 - 16.30 hrs)

### Workshop 4: A Classification and Treatment protocol for Low Back Disorders, Based on the ground breaking research from the Specific Treatment of Problems of the Spine (STOPS)

Presenter: Jon Ford (09.00 - 12.30 hrs)

### Workshop 5: Evidence based Mind-Body and Movement exercises to improve the function and well being of the lower back

Presenter: Eric Franklin (13.30 - 17.00 hrs)

## Workshops Friday, November 4

Level 3

### Jasmine Ballrooms

### Workshop 6: Optimising Motor Control of the Lumbar/Pelvic Region: Smart Exercises for Brain and Body to retrain the "Virtual Body"

Presenter: Trish Wisbey-Roth (09.00 - 16.30 hrs)

### Workshop 7: Understanding Pelvic Girdle Pain: An evidence based course on Clinical Anatomy, Biomechanics and effective Rehabilitation

Presenter: Andry Vleeming (09.00 - 16.30 hrs)

### Workshop 9: Ultrasound-Elastography Guided Extracorporeal Shockwave Therapy in Low Back and Pelvic Girdle Pain

Presenter: Wolfgang Bauermeister (09.00 - 12.30 hrs)

### Workshop 10: A Specialized Spinal Manipulation System of Flexion distraction for the Treatment of Low Back and Radicular Pain

Presenter: James Cox, Maruti Ram Gudavalli (13.30 - 17.00 hrs)



## Poster Session

Level 5

- P1 Determination of radiographic changes in patients treated with chiropractic manipulation**  
Saldaña-Mena J.J., Zavaleta-Hernández J., Herrera-López E., Rodríguez-Torres CL., Montiel-Flores E.
- P2 Ultrasound-guided injection of the adductor longus and pectineus in a cadaver model**  
Lee S.C., Rha D.W., Park J.H., Kim H.J.
- P3 Maximal power during lifting tasks with different weights in physically active and sedentary young adults**  
Zemková E., Poór O., Pecho J., Cepková A., Uvaček M., Hamar D.
- P4 Psoas muscles function is critical to the anatomical and biomechanical lumbar spine function - So why have they been ignored?**  
McKay A.B.
- P5 Mechanical model that mimics sacroiliac joint counter-nutation**  
Badgley L.E.
- P6 Imaging of injured sacrotuberous ligaments**  
Badgley L.E.
- P7 Pelvic landmark displacement as a function of sacroiliac joint movement: A kinematic study**  
Bagg M.K., Wand B.M., Hirschberg J.
- P8 Features of the sacroiliac joint axis of rotation: A systematic review**  
Bagg M.K., Wand B.M., Hirschberg J.
- P9 Change in thickness of the transversus abdominis muscle as a result of coughing**  
Ota M., Ogata S., Kaneoka K.
- P10 Passive control of intervertebral motion in unilateral transtibial amputees**  
Breen A.C., Dupac M.
- P11 The effect of position on the IVD in asymptomatic and discogenic low back pain groups**  
Alexander L.A., Cooper K., Hancock E., Wilcock S., Smith F.W.S.
- P12 The use of percutaneous fine needle biopsy to determine paraspinal muscle contractile characteristics in patients with low back pain: An exploratory review**  
Agten A., Verbrugghe J., Eijnde B.O., Timmermans A., Vandenabeele F.
- P13 Ultrasonography analysis of the thoracolumbar fascia shearing movement in extension-flexion movement in healthy adults**  
Pihman M., Luomala T., Liukkonen H., Heiskanen J.
- P14 Biomechanical analysis of small amplitude physiotherapy of lumbar spine**  
Tomanová M., Daniel M.





- P15 Non-specific chronic low back pain: Exploring differences in trunk muscle activity in subgroups during functional tasks**  
Hemming R., Sheeran L., van Deursen R., Sparkes V.
- P16 New classification of lumbar degeneration based on 3 columns theory**  
Darwono B.
- P17 The effects of hip-joint range of motion limitation on the lumbar spine: An analysis of pelvic motion conducted using gait analysis**  
Okuda T., Kawahara N., Kagetika K., Kaneuji A., Matsumoto T.
- P18 Innominate movement pattern in traumatic transtibial amputees with and without low back pain: A descriptive study**  
Ribeiro D.C., Devan H., Aldabe D., Bussey M.D.
- P19 Correlation of abdominal adiposity, percentage body mass and bodymass index with isometric back extensor endurance of nurses in Enugu**  
Ibikunle P.O., Umunnah J.O., Agwuagu M.I.
- P20 How can chronification of lumbal back pain be avoided?**  
Müller R.
- P21 Safety and efficacy of lumbar spine radiofrequency neurotomy in the presence of posterior pedicle screws**  
Klessinger S.
- P22 Evaluation of trunk muscles strength by using tergumed700 device in sanatorium patients with lumbar spine pain syndromes - Rating as an introduction to therapy**  
Śliwa A., Łysakowska-Będek B., Cygoń K., Bednorz R.
- P23 Effect of betametasone injection on the spontaneous regression of intervertebral disc herniation**  
Tkachev A., Smirnova A., Archakov D., Chernykh I., Ilyushin A.
- P24 Clinical indicators of surgery in elderly lumbar spinal stenosis patients referred from the medical department at a spine centre for surgical assessment**  
Brøgger H.A., Jensen M.S., Leboeuf-Yde C., Schiøttz-Christensen B.
- P25 Study of chiropractic manipulation attenuating the thermal hyperalgesia by diminishing inflammatory factors in sciatic nerve injured rats**  
Inouchi T., Jung H.S., Ham J.H.
- P26 Study in chiropractic manipulation facilitating regeneration of the sciatic nerve in rats**  
Amano M., Choi J.O., Jung H.S., Ham J.H.
- P27 Survey study on complementary alternative medicine care use for patients with low back pain in Japan**  
Tanabe H., Cho H.R., Jung H.S., Ham J.H.
- P28 Survey study in awareness and use of chiropractic care in Japan**  
Imoto Y., Eo B.R., Jung H.S., Ham J.H.



- P29 Predictors for disability and patient recovery after microscopic discectomy surgery: A prognostic cohort study**  
Willems S.J., Scholten-Peeters G.G.M., Rooker S.
- P30 Effect of a role model in the rehabilitation of patients with non-specific low back pain: A randomised trial with a 2-year follow-up**  
Larsen I.G., Oestergaard L.G., Thomsen L.M., Nielsen C.V., Schiøttz-Christensen B.
- P31 The role of adverse events after naprapathic manual therapy as a prognostic factor**  
Tabell V., Skillgate E.
- P32 Evidence-based clinical practice guideline for primary care physiotherapy treatment of acute low back pain**  
Karlsson M., Larsson M.E.H., Bernhardsson S.
- P33 Interrater reliability for the standing pelvic kinetic “Stork” tests and their relevance to a cluster of functional load transfer tests, pelvic ligamentous tests and lower quarter movement impairments**  
Franke B.A., Neal N., Moore J., Grajales T., Olson L.
- P34 Patients sick-listed for musculoskeletal or mental disorders – Differences in pain drawing characteristics**  
Enthoven P., Beka J., Wåhlin C., Ekberg K., Persson J., Bernfort L., Öberg B.
- P35 The relationship between activities and lumbar facet joint pain**  
Emril D.R., Azharuddin A., Purwata T.E.
- P36 Consensus on Exercise Reporting Template (CERT): A modified Delphi study**  
Slade S.C., Dionne C.E., Underwood M., Buchbinder R.
- P37 Prognostic factors for people with low back pain receiving physiotherapy**  
Ford J.J., Hahne A.J., Surkitt L.D., Slater S.L., Richards M.C., Chan A.Y.P., Taylor N.F.
- P38 Individualised physiotherapy is cost-effective relative to advice for low back disorders: Economic analysis within a randomised controlled trial**  
Hahne A.J., Ford J.J., Richards M.C., Surkitt L.D., Chan A.Y., Slater S.L., Taylor N.F.
- P39 Adaptation and effect of lumbar mobilization for nonspecific low back pain - Standpoint of Modic change type II on the magnetic resonance imaging**  
Araki H., Miyamoto S.
- P40 Identification of preliminary prognostic indicators for back rehabilitation in patients with nonspecific chronic low back pain: A retrospective cohort study**  
Denteneer L., Van Daele U., De Hertogh W., Truijien S., Stassijns G.
- P41 The influence of a trunk stabilization exercise warm-up program on low back and lower extremity injuries in junior youth soccer players**  
Imai A., Kaneoka K.
- P42 A single subject research study of guided graded training in women with pregnancy-related chronic pelvic girdle pain**  
Jendman Culshaw T.

- P43** **Determination of postural changes pre and post of chiropractic manipulation in a population of distance runners students of the university Estatal del Valle de Ecatepec**  
Montiel F.E., Saldaña M.J.J., Zavaleta H.J., Maldonado N.A., Peñaflores R.C.L., Moran P.V.A., Álvarez Z.L., Campos G.G., Medina P.E., Sáenz M.C.I., Borja F.V., Herrera L.E.
- P44** **Rotation exercise classes did not improve function in women with non-specific chronic low back pain: A randomized single blind controlled study**  
Segal-Snir Y., Lubetzky V.A., Masharawi Y.
- P45** **The effect of therapeutic exercises using modern biofeedback device with an equalizer of imbalance in trunk muscle strength and to reduce feelings of pain and improvement in postural stability in patient with LBP - A case report**  
Śliwa A., Łysakowska-Będek B., Cygoń K., Bednorz R.
- P46** **The effect of four week treatment with the use of biofeedback device for improving muscle strength and reducing pain in patients with LBP - Preliminary report**  
Śliwa A., Łysakowska-Będek B., Cygoń K., Bednorz R.
- P47** **The effect of four week therapy with use of specialized equipment with biofeedback to improve postural stability in patients with LBP - Preliminary report**  
Śliwa A., Łysakowska-Będek B., Cygoń K., Bednorz R.
- P48** **Efficacy of prolotherapy treatment for sacroiliac joint instability and pain**  
Mitchell B., Rose R., Barnard A.
- P49** **Should hamstring muscles be stretched by flexing the hip while keeping the knee extended or by flexing the hip with a flexed knee and then extending the knee?**  
Demoulin C., Wolfs S., Chevalier M., Granado C., Grosdent S., Roussel N., Depas Y., Hage R., Crielaard J.-M., Vanderthommen M.
- P50** **Are fatigue-related EMG parameters correlated to trunk extensor muscles fatigue induced by the Sorensen test?**  
Demoulin C., George F., Matheve T., Jidovtseff B., Vanderthommen M.
- P51** **A systematic review and meta-analysis of randomised controlled trials investigating the effectiveness of foot orthotic devices for the prevention and treatment of low back pain**  
Chuter V.H., Spink M.J., Searle A., Sadler S.G., Ho A.
- P52** **A randomised controlled trial investigating the effect of core strength training on the thickness of the transversus abdominis muscle**  
Sadler S.G., Janse De Jonge X.A.K., Thompson B.M., Chuter V.H.
- P53** **Evaluating municipality based rehabilitation for low back pain**  
Morsø L., Pedersen T.J., Jacobsen Y.J.M.
- P54** **Individualised functional restoration versus advice for lumbar disc herniation with associated radiculopathy: A randomised controlled trial**  
Hahne A.J., Ford J.J., Hinman R.S., Richards M.C., Surkitt L.D., Chan A.Y., Slater S.L., Taylor N.F.
- P55** **Effect of activity pacing in chronic low back pain with exercise dependence behavior – A case series**  
Manivasagam M., Anandkumar S., Tie V.S.K., Meyding-Lamadé U.

- P56** **Effects of the chiropractic treatment in runners students college with a lumbo-pelvic biomechanical dysfunction**  
Herrera L.M.E., Zavaleta H.J., Montiel F.E., Campos G.G., Carpio B.L.A., Saldaña M.J.J., Medina P.E., Sáenz M.C.I.
- P57** **Effect of chiropractic manipulation in blood serum chemistry of six elements in university runners**  
Zavaleta H.J., Herrera L.M.E., Montiel F.E., Campos G.G., Carpio B.L.A., Saldaña M.J.J., Medina P.E., Morales R.M.R.V., Borja F.V.
- P58** **The development and clinical evaluation of a functional technology-supported exercise therapy program for patients with chronic non-specific low back pain**  
Matheve T., Claes G., Olivieri E., Timmermans A.A.A.
- P59** **'Better Backs @ Austin' group back rehabilitation programme: An audit of outcomes to determine programme effectiveness**  
Bardin L.D.
- P60** **Reducing inpatient length of stay for low back pain**  
Laurent R., Baecher R.
- P61** **Effects of individual pilates and group pilates on pain and disability in individuals with chronic non-specific low back pain: A systematic review with meta-analysis**  
Low R.J.C., Poh L.C.R.
- P62** **Applying an active lumbopelvic control strategy during lumbar extension exercises: Effect on muscle recruitment patterns of the lumbopelvic region**  
Schoupe S., Danneels L., De Ridder E., Vleeming A., Vanderstraeten G., Van Oosterwijck J.
- P63** **Outcomes following the intervention of the hip joint approach for a patient with non-specific low back pain in Taiwan: A case report**  
Hsu C.Y.
- P64** **Effects of aquatic therapy (Watsu) in patients with chronic nonspecific low back pain – A pilot study**  
Kulik A., Rosłonec E., Koszela A., Zagórski T.
- P65** **Effects of high intensity training in patients with non-specific chronic low back pain: A clinical pilot trial**  
Agten A., Verbrugghe J., Eijnde B.O., Timmermans A., Vandenabeele F.
- P66** **Task oriented training using a motion detection system in persons with low back pain: A feasibility study**  
Smeets W., Knippenberg E., Matheve T., Palmaers S., Verbrugghe J., Lambrechts R., Olivieri E., Feys P., Spooren A., Timmermans A.
- P67** **Training frequency and intensity in rehabilitation of chronic nonspecific low back pain: An exploratory review**  
Verbrugghe J., Agten A., Smeets W., Eijnde B.O., Vandenabeele F., Timmermans A.
- P68** **Impact of a high intensity training program on changes in activity level of persons with chronic nonspecific low back pain: Data of a clinical pilot trial**  
Verbrugghe J., Agten A., Seelen H., Eijnde B.O., Vandenabeele F., Timmermans A.
- P69** **Pre-surgery physiotherapy for patients with specific low back pain: A randomized controlled study**  
Lindbäck Y., Tropp H., Enthoven P., Abbot A., Öberg B.





- P70** **The result of a sequenced rehabilitation protocol for ankylosing spondylitis**  
Sharan D.
- P71** **Outcome of a multidisciplinary rehabilitation protocol for failed back surgery syndrome**  
Sharan D., Rajkumar J.S.
- P72** **Aquatic therapy: Rehabilitative tool for musculoskeletal dysfunction**  
Kelsick E.W.
- P73** **Effect of standing exercises using pelvis and thorax realignment device on the symptoms of care workers with low back pain**  
Ogura H., Kihara T., Gamada K.
- P74** **Instantaneous effect of contraction maneuvers of the abdominal muscles on inter-recti distance in women with diastasis recti compared with healthy women**  
Rezazadeh M., Khalkhali Zavieh M., Dehghan Manshadi F.
- P75** **Thickness change comparison of abdominal muscles during abdominal hollowing maneuver with and without pelvic floor muscle**  
Tahan N., Mohseni Bandpei M.A.
- P76** **Chiropractic treatment, Gonstead technique, to determine the measurement of blood lactate and heart rate in amateur athletes**  
Campos G.G., Herrera L.E., Montiel F.E., Zavaleta H.J., Saldaña M.J.J., Medina P.E., Saenz M.C., Borja F.V.
- P77** **Examination and treatment of an adolescent circus artist with low back pain with utilization of a patient specific functional scale to assist in returning the patient to all her circus skills**  
Khoo-Summers L.
- P78** **Examination and treatment of a competitive figure skater with psoriatic arthritis with bilateral hip pain status post three arthroscopic labral repairs**  
Khoo-Summers L.
- P79** **RehApp – The feasibility of an App to guide self-management for patients with cervical radiculopathy**  
Rasmussen H., Boyle E., Sjøgaard G., Schultz U.P., Kjaer P.
- P80** **Influence of different fixation methods in the Biering-Sørensen test on endurance time and muscle fatigue**  
Stevens V., Perneel C., Van Tiggelen D., Jodts I., Commere F., Danneels L.
- P81** **The immediate effect of dry needling on the myofascial and discopathic radiating low back pain**  
Mahmoudzadeh A., Karimi A., Rezaeian Z.S.
- P82** **The effect of walking with 10% inclination on treadmill in patients with chronic low back pain - A randomized control trial**  
Soleimanpur R., Karimi A.
- P83** **Simple facet joint repair with dynamic pedicular system: Technical note and case series**  
Ozer A.F., Oktenoglu T., Suzer T., Sasani M., Cezayirli P., Marandi H.J., Erbulut D.U.
- P84** **The immediate effect of spinal manipulation on pain intensity in acute low back pain**  
Amel Eini S., Karimi A., Rezaeian Z.S.

- P85** **Factors associated with low back pain before pubertal peak growth**  
Dolphens M., Vansteelandt S., Cagnie B., Vleeming A., Vanderstraeten G., Danneels L.
- P86** **The immediate effect of multiple mechanical impulses on electromyography and pain pressure threshold of lumbar latent trigger points: An experimental study**  
Ameloot B., Bagust J.
- P87** **Validity and responsiveness of the Dutch version of the modified Oswestry disability index**  
Denteneer L., Van Daele U., De Hertogh W., Truijien S., Persoone K., Stassijns G.
- P88** **Complications of spine surgery and litigations**  
El Banna S.
- P89** **Applied manual therapy (Mulligan technique) used in pain reduction tests as a method of classifying low back pain in athletes**  
Takaya N., Koji K.
- P90** **Lumbar rotation kinematical parameters in men with non-specific chronic low back pain measured in neutral standing and with full flexion**  
Haj A., Steinberg N., Masharawi Y.
- P91** **Does risk stratification based on the start back tool predict reduced disability after a rehabilitation program? A pilot study**  
Hansen H.B., Vaegter H.B.
- P92** **Gouty arthropathy leading to rare sacro-iliac joint erosion and pain**  
Thomas S.A., Reddy A.
- P93** **Unique mechanism for lumbar musculoskeletal pain defined from primary care research into periosteal/enthesis response to biomechanical stress and formation of small fibre polyneuropathy**  
McKay A.B.
- P94** **Physiotherapy for low back disorders – What works and why**  
Ford J.J., Hahne A.J.
- P95** **High-frequency spinal cord stimulation at 10kHz for the treatment of post-surgery back pain**  
Verrills P., Mitchell B., Vivian D., Barnard A.
- P96** **Interdisciplinary fascia therapy (IFT method) in chronic low back pain: An effectiveness trial with 206 outpatients**  
Gordon C.-M., Birbaumer N., Andrasik F.
- P97** **A randomized controlled trial of chiropractic and physical therapy for balance impairments and chronic low back pain in community dwelling geriatric patients**  
Enix D.E., Sudkamp K., Malmstrom T.K., Flaherty J.H.
- P98** **Understanding the interaction between biology and psychology in the transition from acute to persistent LBP**  
Schabrun S.M., Hodges P.W.
- P99** **Associations between the treatment outcome and demographic and clinical characteristics in chronic mechanical low back pain**  
Perera G.L.R.S., Dissanayake P.H., Senarath U., Wijayarathne L.S., Karunanayake A.L., Dissanayake V.H.W.



- P100 The effect of taping to postural control in people with chronic low back pain**  
Zhou Y., Ng J.K.-F., Mok N.W.
- P101 A systematic review on the management of myofascial pain syndrome of the lower back**  
Sharan D., Rajkumar J.S.
- P102 A systematic review of psychosocial factors as predictors of chronic low back pain**  
Rajkumar J.S., Sharan D., Balakrishnan R.
- P103 Ultrasound elastography for the evaluation of the elastic properties of the thoracolumbar fascia and back muscles in idiopathic low back pain**  
Bauermeister W., Rassmann P.
- P104 Are job strain and sleep disturbances prognostic factors for low-back pain? A cohort study of a general population of working age**  
Rasmussen-Barr E., Grooten W.J.A., Hallqvist J., Holm L.W., Skillgate E.
- P105 Unilateral laminotomy for bilateral decompression and spinal stability**  
Roman de Aragon M., Roda J.M., Paz J.F., Mansilla B.
- P106 Effectiveness of ginger kidney compresses on patients with osteoarthritis and self-perceived stiffness: A randomized, controlled trial**  
Vagedes J., Deckers B., Helmert E., Mueller V., Andrasik F.
- P107 Factors predicting poor outcome 12 months after physiotherapeutic interventions for low-back pain**  
Ång B., Elfgren S., Zedell F., Rasmussen-Barr E.
- P108 Anxiety correlates with the reactive but not with the sensory dimension of the brief pain inventory within patients with chronic lower back pain - a prospective cross-sectional study**  
Vagedes J., Gordon C.-M., Mueller V., Andrasik F., Gevirtz R., Schleip R., Birbaumer N.
- P109 The words people use to describe chronic low back pain: A cross-cultural comparison**  
Sharma S., Jensen M.P.
- P110 Pain-related factors associated with lost work days in nurses with low back pain: A cross-sectional study**  
Sharma S., Shrestha N., Jensen M.P.
- P111 Predictors for future activity limitation in female patients with chronic low back pain consulting primary care**  
Nordeman L., Thorselius L., Gunnarsson R., Mannerkorpi K.
- P112 Outcome of sequenced, multidisciplinary rehabilitation of lumbar prolapsed intervertebral disc associated with myofascial pain syndrome**  
Sharan D.
- P113 Hip and groin pain in cyclist resolved after pelvic floor fascial mobilization treatment – A case report**  
Navot S., Kalichman L.
- P114 The effectiveness of individualised manual therapy compared to advice for lumbar zygapophyseal joint pain: A 2-year follow-up of a randomised controlled trial**  
Ford J.J., Hahne A.J., Surkitt L.D., Slater S.L., Richards M.C., Chan A.Y.P., Hinman R.S., Taylor N.F.

- P115 Evaluation of new treatment about sacral torsion: Joint Energy Technique (JET)**  
Cho S.H., Jo E.T., Yang M.S., Kim K.B., Yun C.Y.
- P116 Three combinations of manual therapy techniques within naprapathy in the treatment of neck and/or back pain: A randomised controlled trial**  
Paanalahti K., Holm L.W., Nordin M., Höjjer J., Lyander J., Asker M., Skillgate E.
- P117 Knowledge and beliefs of health care professionals performing thrust spinal manipulations on these techniques: A preliminary study**  
Demoulin C., Baeri D., Toussaint G., Grosdent S., Wolfs S., Bornheim S., Vanderthommen M.
- P118 Role of fasciae in nonspecific low back pain**  
Casato G., Stecco C., Busin R.
- P119 Manual treatment of coccygodynia: Case series**  
Lilje S.
- P120 Diagnosis of sacro-iliac joint syndrome in low back/pelvic pain: Reliability of 3 key clinical signs**  
Perlman R., Golan J., Lugo M.
- P121 Case report of abdominal and lumbar scars contributing to myofascial low back pain**  
Whitelaw A., Prather H.
- P122 Interdisciplinary fascia therapy (IFT method) reduces chronic low back pain: A pilot study for a new myofascial approach**  
Gordon C.-M., Graf C., Lazi A., Birbaumer N., Andrasik F.
- P123 Immediate effects of central posteroanterior mobilisation on pain pressure thresholds in non specific lowback pain individuals: A randomised controlled trial**  
Neelapala Y.V.R.
- P124 Self-help treatment for low back pain and stress: A pilot study employing a myofascial manipulation tool**  
Gordon C.-M., Graf C., Lindner S.M., Wagner M., Birbaumer N., Andrasik F.
- P125 Osteopathic manipulative treatment in chronic coccydynia: Radicular pain implications**  
Origo D.
- P126 Rotational mobilization versus muscle energy technique on acute non specific low back pain using treatment based classification – A pilot trial**  
Prem V.
- P127 Investigation of clinical result and radiological evaluation after balloon kyphoplasty for osteoporotic vertebral compression fractures - Minimally 1 year follow up**  
Morita M., Nakamura H.
- P128 How the regional eggshell technique works during kyphoplasty? Our experience in the treatment of osteoporotic vertebral compression fracture pain**  
Lo H., Chen H.M.
- P129 Indirect decompression with lateral lumbar interbody fusion**  
Sasaki K., Ishii K., Watanabe M.
- P130 Accuracy of pedicle screw placement using navigation system for traumatic thoracolumbar spine injury**  
Shimokawa N.



- P131 Degenerative scoliosis in elderly treated with “stand alone” cement discolplasty - Report of 40 patients with 9 months follow-up**  
Norotte G., Saharaoui N.
- P132 Comparison of spinal stabilization exercise and general exercise on enhancing lumbar stability in non-specific chronic low back pain patients using a biomechanical model**  
Shamsi M.B., Sarrafzadeh J., Jamshidi A.A., Arjmand N., Ghezlbash F.
- P133 Chronic pain: The Twisted Body Stress Syndrome (TBSS) - Asymmetrical activation of a central autonomic sympathetic network causes hemispheric motor cortex excitability imbalance**  
Anderson R.
- P134 Lumbar multifidus discharge characteristics in acute low back pain**  
Lothe L.R., Raven T.J.L., Sandbæk G., Eken T.
- P135 The Dutch version of the Fremantle Back Awareness Questionnaire**  
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