ISSLS Annual Meeting – New Zealand
Special Emphasis Poster Session # 1
Thursday April 17, 2010 7.45 AM-8.45 AM

A. LOW BACK PAIN I
Chairman: Peter Robertson
Moderator: John Lurie

1. Association between lumbar scoliosis and leg length discrepancy on unilateral hip osteoarthritis
   **T Morimoto**, K Aita, K Inatomi, T Hotokebuchi, Saga, Japan

2. Low back pain is associated with increased symptoms in persons with symptomatic knee osteoarthritis
   **P Suri**, D Morgenroth, DJ Hunter, Boston, MA, USA

3. Disc degeneration in subjects with bilateral versus unilateral spondylolysis at L5
   **E Schnaser**, J Toy, S Qureshi, K Ahmandania, P Gause, J Tinley, J Eubanks, N Ahn, Cleveland, Ohio, USA

4. A possible mechanism of referred low back muscle pain from lumbar facet joints

5. The ventral hippocampus – a novel target for treatment of back associated pain
   **A Ermund**, E Nilsson, H Brisby I Hammar, Gothenburg, Sweden


B. COMPLICATIONS
Chairman: Ed Hanley
Moderator: Hiroshi Hashizume

7. Is iliac crest bone graft still the gold standard in spinal fusion surgery? A survey of spine surgeons
   **M Aubin**, J Eck, A Lapinsky, P Connolly, Worcester, MA, USA

8. Diffusion magnetic resonance magnetic imaging to differentiate degenerative from infectious endplate abnormalities.
9. Metal ion release in paediatric scoliosis instrumentation
TP Cundy, CL Delaney, MD Rackham, G Antoniou; AP Oakley, BJC Freeman; LM Sutherland; PJ Cundy, Adelaide, South Australia

10. Risk factor of pedicle screw misplacement in idiopathic scoliosis surgery using computer-assisted technique
H Murakami, K Yamazaki, S Yoshida, T Shimamura, Morioka, Iwate, Japan

11. Complications in 710 XLIF surgeries
WB Rodgers, EJ Gerber, J Patterson, Jefferson City, MO, USA

12. Postoperative wound complications are increased after lumbar surgery in the severely and morbidly obese
K Ahamandia, E Schnaser, D Dickson, N Ahn, Cleveland, Ohio, USA

C. NERVE / CELL BIOLOGY I
Chairman: Björn Rydevik
Moderator: Koichi Masuda

13. The role of neurotrophic factor in cultured medium extracted from human degenerative nucleus pulposus and annulus fibrosus to promote nerve growth
K Yamauchi, M Yamashita, G Inoue, M Suzuki, S Orita, Y Eguchi, T Yamashita, K Takahashi, S Ohtori, Chiba, Japan

14. Detection of lumbar nerve root injury during retraction using transcranial motor evoked potentionals (TCMEPS) in a procine model
S Burch, R Lyons, J Lieberman, San Francisco, CA, USA

15. Interaction of 5-hydroxytryptamine and tumor necrosis factor-alpha to pain-related behavior by nucleus pulposus applied on the nerve root in rats
H Kobayashi, M Sekiguchi, K Kato, S Kikuchi, S Konno, Fukushima, Japan

16. Long-lasting up-regulation of TNF-alpha and IL-6 in injured intervertebral disks induces painful neuropeptides in DRG neurons innervating the disks in rats
M Miyagi, T Ishikawa, S Orita, Y Eguchi, H Kamoda, G Arai, M Suzuki, G Inoue, S Ohtori, K Takahashi, Chiba, Japan

JH Kim, HJ Moon, JJ Park, JD Kang, YK Park, Seoul, South Korea

18. Human umbilical cord mesenchymal stromal cells (HUCMSCS) exhibit immature nucleus pulposus cell phenotype in a laminin-rich pseudo-3D culture system
BJ Chon, L Jing, LA Setton, J Chen, Durham, NC USA
D. TOTAL DISC REPLACEMENT / FACET JOINTS

Chairman: David Hall
Moderator: Michael Mayer

19. 10 year radiographic follow up of AcroFlex lumbar disc replacement
AR Meir, S Fowler, RD Fraser, London, UK

20. Direct comparison of two lumbar total disc replacement devices: results from a
prospective randomized, multicenter FDA-regulated trial
RD Guyer, K Pettine, RQ Knight, D Coric, PC McAfee, CR Gordon, A Cappuccino, RA
Buckley, P Nunley, FH Geisler, TA Peppers, JR Rappaport, C Laurysen, Plano, TX, USA

21. Radiographic comparison of two lumbar total disc replacement devices: Results
from a prospective, randomized, controlled, multicenter FDA-regulated trial
RD Guyer, K Pettine, RQ Knight, D Coric, PC McAfee, CR Gordon, A Cappuccino, RA
Buckley, P Nunley, FH Geisler, TA Peppers, JR. Rappaport, C Laurysen, Plano, TX, USA

22. The effects of mal-placement of the intervertebral disc allograft transplant on
the kinematics of the spine
SKL Lam, J Xiao, D Ruan, D Yu, WW Lu, KDK Luk, Hong Kong

23. Multilevel lumbar disc arthroplasty leads to unfavorable kinematics, high facet
forces and lift-off phenomena
H Schmidt, F Galbusera, A Rohlmann, T Zander HJ Wilke, Ulm, Germany

24. Increased inflammatory molecules in degenerative human facet joint capsular
tissue
J Kim, MH Ali, HS An, G Cs-Szabo, JS Kroin, H-J Im, Chicago, IL USA

E. THE AGING SPINE: SPINAL STENOSIS / OSTEOPOROSIS

Chairman: Gordon Findlay
Moderator:

25. Latest advances in the presurgical diagnosis of lumbar lateral stenosis with the
use of magnetic resonance myelography(3D FIESTA)
T Ozawa, T Toyone, A Watanabe, R Shiboi, K Inada, Y Wada, Chiba, Japan

26. Validation of indoor level walking test for quantification of neurogenic
claudication
J Rainville, L Childs, P Suri, E Peña, D Hunter, Boston, MA, USA

27. Interference between the epidural fat and ligamentum flavum contributes to the
load and position induced cauda constriction in spinal stenosis
T Hansson, N Suzuki, H Hebelka, Gothenburg, Sweden

28. Therapeutic effects of alfacalcidol, risedronate and raloxifen on three-
dimensional trabecular microarchitecture of cranial vertebral endplate in postmenopausal women: A prospective randomized trial using multi-detector-raw CT imaging

Ma Kato, H Takaishi, K Matsuzaki, H Kaneko, M Matsumoto, Y Toyama, K Chiba, Tokyo, Japan

29. Relationship of nerve root disturbance to lumbar spinal stenosis based on the operative findings and clinical symptoms

A Miyauchi, T Sumida, H Manabe, A Nakabayashi, Hiroshima, Japan

30. Marked improvement in patients treated with vertebrolasty after painful osteoporotic compression fractures

H Bae, LEA Kanim, N Gupta, M Kropf, R Delamarter, Santa Monica, CA, USA
Special Poster Session # 2  
Saturday April 17, 2010 7.45 AM - 8.45 AM

**F. CELL BIOLOGY II**
Chairman: Jeffrey C Lotz  
Moderator: James Kang

31. Sequestrated intervertebral discs are mainly infiltrated by dendritic cell precursors: Evidence from a prospective study on patients  
**A Geiss, KS Delank, R Sobottke, HP Springorum, JW Michael, K Schlüter-Brust, P Eysel, Cologne, Germany**

32. Senescent vs. non-senescent cells in the human annulus: laser capture microdissection and in vivo gene expression with microarray analysis  
**HE Gruber, GL Hoelscher, JA Ingram, N Zinchenko, EN Hanley, Jr, Charlotte, NC, USA**

33. Gene expression data suggest mitochondrial dysfunction as a potential underlying cause of intervertebral disc degeneration  
**HE Gruber, GL Hoelscher, J Watts, JA Ingram, Y Sun, EN Hanley, Jr, Charlotte, NC, USA**

34. Fragmentation of hyaluronic acid stimulates expression of proinflammatory cytokines and matrix degrading enzymes in human intervertebral disc cells  
**L Quero, M Leonardi, A Nerlich, N Boos, K Wuertz, Zurich, Switzerland**

35. Wnt/βcatenin-mediated regulation of intervertebral disc cells: Modulation by BMP signalling  
**A Hiyama, D Sakai, M Tanaka, J Mochida, Kanagawa, Japan**

36. Oxygen metabolism of intervertebral disc cells; comparison between cells from the bovine outer annulus and nucleus pulposus  
**OA Boubriak, S Zhou, JPG Urban, Oxford, UK**

**G. LOW BACK PAIN II**
Chairman: Tommy Hansson  
Moderator: Jiri Dvorak

37. Adolescent volleyball is slightly protective for low back pain and not correlated with spinal deformities : A controlled cross-sectional survey  
**F Zaina, S Negrini, S Atanasio, C Fusco, M Marinari, A Certelli, Milan, Italy**

38. Predictors of chronic low back pain – What health practitioners should pay attention to  
**M Melloh, C Rolli Salathé, A Elfering, O Tamcan, AF Mannion, N Boos, U Mueller,**
39. What are the reliable radiological findings to predict lumbar segmental instability?

**K Hasegawa, K Kitahara, H Shimoda, T Hara, Niigata, Japan**

40. Staying at home with low back pain: Multidimensional predictors of work absenteeism

**M Melloh, C Rolli Salathé, A Elfering, O Tamcan, AF Mannion, N Boos, U Mueller, Dunedin, New Zealand**

41. A validation study of brief scale for psychiatric problems in orthopaedic patients (BS-POP) for patients with chronic low back pain Part 1 (verification of the reliability, validity and reproducibility)

**K Yoshida, M Sekiguchi, K Otani, H Mashiko, H Shiota, T Wakita, S Konno, Fukushima, Japan**

42. A validation study of brief scale for psychiatric problems in orthopaedic patients (BS-POP) for patients with chronic low back pain Part 2 (verification of the criterion-related validity and responsiveness)

**K Yoshida, M Sekiguchi, K Otani, H Mashiko, H Shiota, T Wakita, S Konno, Fukushima, Japan**

**H. FUSION**

Chairman:
Moderator: Tomoaki Toyone

43. PTH enhances bone formation in the rat lumbar spine fusion model

**E Schnaser, I Barrett, N Ahn, Cleveland, Ohio, USA**

44. Evaluation of early tissue reactions after lumbar intertransverse process fusion using CT in a rabbit

**J Shinbo, P Mainil-Varlet, A Watanabe, S Pippig, J Koerner, M Mimura, H Samedia, K Takahashi, SE Anderson, Chiba, Japan**

45. Assessment of the facet joint degeneration and trophism comparing 360° fusion and posterolateral fusion

**C-H Jeon, J-Y Yi, N-S Chung, D-Y Park, M-S Park, Republic of Korea**

46. Low bone mineral density is not a risk for pseudoarthrosis after instrumented lumbar or lumbosacral fusion

**M Hoshino, S Sato, T Hyakumachi, H Yoshimoto, Y Yanagibashi, K Takayama, Ikoma, Nara, Japan**

47. Does preoperative degeneration matter for adjacent disc degeneration?; Minimum 5-year MRI follow-up

**C-H Jeon, N-S Chung, J-Y Yi, D-Y Park. M-S Park, Republic of Korea**

48. Fusion status and clinical outcomes of instrumented transforaminal lumbar interbody fusion with local autogenous bone graft: 2-year results of prospective
cohort study.

S Kawaguchi, H Oguma, I Yamazaki, M Yamamura, T Akatsuka, S Matsuo, N Ono, K Horigome, H Yajima, T Oda, Y Kii, Asahikawa, Japan

I. DEGENERATIVE DISC DISEASE (DDD)
Chairman: Kjell Olmarker
Moderator: Josef Assheuer

49. P38 MAPK inhibition has a positive effect on human and rabbit intervertebral disc degeneration.

K Kakutani, R Pichika, T Yoshikawa, M Doita, K Masuda, San Diego, California, USA

50. Variations in anular defect characteristics in herniated lumbar discs: a feasibility study of anular repair and an attempt to confirm Carragee population data on defect size

D Wong, L Mauter, V Murdock, C Wong, Greenwood Village, Colorado, USA

51. Relationship of early lumbar vertebral degeneration between the MRI grading and extracellular matrix components using dgemric and T2 mapping

A Sugawara, H Murakami, S Yoshida, R Kawamura, K Yamazaki, T Shimamura, Morioka, Iwate, Japan

52. Intimate relationship between instability and degenerative signs at L4/5 segment examined by flexion-extension radiography

T Iguchi, T Ozaki, T Chin, N Tsumura, A Kanemura, K Kasahara, K Nishida, Mi Doita, Kobe, Hyogo, Japan

53. Modic Type I changes predict rapidly progressing disc degeneration at 1-year follow-up

L Kerttula, K Luoma, E Kääpä, M Grönblad, Helsinki, Finland

54. The association between cigarette smoking and intervertebral disc degeneration of the lumbar spine

D Samartzis, J Karppinen, KDK LuK, KMC Cheung, Hong Kong

J. OUTCOME MEASUREMENTS / INDUSTRY RELATIONSHIPS
Chairman:
Moderator:

55. Return to work outcomes for those with and without objective neurological findings.

G McIntosh, H Hall, C Gregg C Hoffman, Toronto, Ontario, Canada

56. Analysis of change in scores in commonly used outcome measures: What can we legitimately assume about the stability of individual patient scores based on group mean scores?

DD. Ohnmeiss, RD Guyer, SL Blumenthal, Plano, TX, USA
57. Long-term psychosocial adjustment and quality of life following spinal cord injury: a comparison of injured persons and their caregivers
M Grigg, BJC Freeman, L Denson, M Shunmugam, A Poli, D Dorstyn, Adelaide, South Australia, Australia

58. A multidisciplinary functional restoration program for patients with chronic back pain
KDK Luk, T Wan, YW Wong, KMC Cheung, YK Chan, A Cheng, M Kwan, K Law, PWH Lee, GLY Cheing, Hong Kong

59. Surgeon-industry conflict of interest: Survey of North American opinions regarding industry sponsored research
CP DiPaola, CG Fisher, H Zhang, V Noonan, MFS Dvorak, Worcester, MA, USA

60. Surgeon-industry conflict of interest: survey of North American’s opinions regarding industry sponsored educational events and surgeon teaching
CP DiPaola, C Fisher, H Zhang, V Noonan, MFS Dvorak, Worcester, MA, USA