ISSLS Annual Meeting
New Zealand, April 13-17, 2010
General Posters

Biochemistry/Cell Metabolism/Gene Transfer/Growth Factors

GP1. Both endoplasmic reticulum and mitochondria are involved in disc cell apoptosis and intervertebral disc degeneration in rats, C-Q Zhao, L-S Jiang, L-Y Dai, Shanghai, China

GP2. Nanoporous silicon particles (NSP) as a delivery system for the enhancement of spinal fusion
BK Weiner, E Tasciotti, M Ferrari, H Smith, Houston, TX, USA

GP3. Effect of adeno-associated virus-2 mediated human BMP7 gene transfer on chondrocytic phenotype of nucleus pulposus cell
CF Wang, D-K Ruan, C Zhang, D-L Wang, H-K Xin, Y Zhang Yan, Beijing, China

GP4. Efficacy of interspinous process fusion with recombinant human bone morphogenetic Protein-2 delivered by a synthetic polymer and β-tricalcium phosphate
M Tomiya, T Hiromitsu, D Sho, N Hiroaki T Kunio, Osaka, Japan

GP5. The ectopic expression of E-cadherin upregulates the expression of collagen II and aggrecan by the BMP pathway in human intervertebral disc cells
Z Wang, K Higashino, WC Hutton, ST Yoon, Atlanta, Georgia, USA

H Kamoda, S Ohtori, M Yamashita, Y Wada, T Toyone, T Ozawa, K Nakagawa, Y Eguchi, S Orita, T Ishikawa, G Ara, M Miyagi, K Takahashi, Chiba, Japan

GP7. Expression of the tissue renin-angiotensin system in rat intervertebral disc: implication for disc degeneration
R Morimoto, K Akeda, S Obata, R Iida, A Nishimura, Y Kasai, A Uchida, A Sudo, Tsu, Mie, Japan

GP8. Actin-Beta should not be used as an endogenous control in real-time RT-PCR for intervertebral disc research under mechanical loading stress conditions
T Yurube, K Nishida, T Suzuki, Z Zhang, J Yamamoto, K Kakutani, K Maeno, T Takada, T Iguchi, M Kurosaka, M Doita, Kobe, Japan

GP9. Pulsed electromagnetic field (PEMF) stimulation of nucleus pulposus cells
M Held, L Ettinger, PM Welz, SJ Ferguson, Bern, Switzerland

GP10. Activated apoptotic mitochondrial pathway in a rat tail compression loading – induced disc degeneration model
T Yurube, K Nishida, T Suzuki, Z Zhang, J Yamamoto, K Kakutani, K Maeno, T Takada, T Iguchi, M Kurosaka, M Doita, Kobe, Japan

GP11. Effect of osteogenic Protein-1 (OP-1) on proteoglycan metabolism of disc cells under low osmotic conditions as seen in degenerated disc
K Takeno, S Kobayashi, T Miyazaki, K Negoro, H Baba, A Meir, J Urban, Eiheiji, Fukui, Japan
GP12. Novel treatment options for discogenic back pain: The red wine polyphenol resveratrol inhibits expression of proinflammatory cytokines and matrix degrading enzymes in intervertebral disc cell
L Quero, M Klawitter, A Plewnia, J Klasek, N Boos, K Wuertz, Zurich, Switzerland

GP13. Proinflammatory reactions in the intervertebral disc: Involvement of toll-like receptors
L Quero, M Leonardi, A Nerlich, N Boos, K Wuertz, Zurich, Switzerland

GP14. Functional consequences of silencing MMP-2 through RNAi in intervertebral disc cells
A Rastogi, ME Boutin, JD Twomey, AH Hsieh, College Park, Maryland, US

GP15. A p38 mitogen-activated protein kinase inhibitor, SCIO-496, inhibited the production and expression of cytokines and pain-related molecules by human intervertebral disc cells
R Pichika, K Kakutani, M Lenz, T Yoshikawa, G Szabo, K Masuda, La Jolla, CA, USA

GP16. Effect of bone morphogenetic protein-7 on chronic intervertebral disc degeneration in a mature rabbit model
T Yoshikawa, K Masuda, WC Bae, K Kakutani, M Bydder, HS An, San Diego, CA, USA

GP17. TNF-alpha response of cells of the intervertebral disc depends on their location in the disc
G Cs-Szabo, D Gerard, S Park, D Pietryla, GBJ Andersson, H An, Chicago, IL, USA

GP18. Imbalanced catabolic relative to anabolic gene alterations in a rat tail compression loading-induced disc degeneration model
T Yurube, K Nishida, T Suzuki, Z Zhang, J Yamamoto, K Kakutani, K Maeno, T Takada, T Iguchi, M Kurosaka, M Doita, Kobe, Japan

Biomechanics

GP19. Contribution of risk factors for over-stress at adjacent segments after lumbar fusion: Removal of posterior ligaments, pedicle screws, fusion itself

GP20. A morphological adaption of the thoracic and lumbar vertebrae to lumbar hyperlordosis in young and adult females
Y Masharawi, G Dar, S Peleg, N Steinberg, B Medlej, H May, J Abbas, Israel

GP21. Can the extrusion risk of injected discs cells be reduced with albumin gel as a cell carrier?
H-J Wilke, H Fuchs, G Achatz, C Neidlinger-Wilke, J Mollenhauer, K Benz, H Wurst, F Heuer, Ulm, Germany

GP22. A biomechanical study of two different pedicle screw fixation methods when used in osteoporotic and non-osteoporotic vertebrae
K Higashino, JH Kim, T Ganey, WC Horton, WC Hutton, Atlanta, Georgia, USA

GP23. A fresh look at the nucleus/endplate region: micromechanical evidence for a higher level of structural integration
KR Wade, PA Robertson, ND Broom, Auckland, New Zealand

SJ Ferguson, A Wenger, Bern, Switzerland

GP25. Architecture of human abdominal wall muscles: Implications for mechanical function
SHM Brown, SR Ward, MS Cook, RL Lieber, La Jolla, California, USA

GP26. Assessment of spinal fusion status using biomechanical computed tomography
CW O'Neill, D Kopperdahl, S Burch, M Hambly, T Keaveny, San Francisco, CA, USA
GP27. Intradiscal pressure generation depends on load-history in rat caudal discs  
D Hwang, AS Gabai, M Yu, AH Hsieh, College Park, MD, USA

GP28. Spinal instrumentation following complete resection of the last lumbar vertebra: An in vitro biomechanical study following I5 spondylectomy  
V Bartanusz, A Muzumdar, M Moldavsky, M Hussain, S Khalil, Audubon, PA, USA

GP29. A biomechanical model of degenerative spondylolisthesis: Results of pure shear testing  
SP Kingwell, A Melnyk, Q Zhu, J Chak, MF Dvorak, TR Oxland, Ottawa, Ontario, Canada

TW Peters, SR Chinthakunta, M Hussain, S Khalil, Audubon, PA, USA

GP31. Lumbar and hip sagittal movement: Influence of sex and age  
P Intolo, S Milosavljevic, AB Carman, GD Baxter, Dunedin, New Zealand

GP32. Use of a robot-based sequential dissection technique applied in porcine motion segments to identify which spinal tissues are loaded during the application of manual therapy  
GN Kawchuk, A Carrasco, G Beecher, D Goertzen, N Prasad, Edmonton, Alberta, Canada

GP33. Delamination of the anulus: How does the anterior differ from the posterior in terms of the energy required to propagate delamination?  
DE Gregory, EM Kyubwa, AC Chen, RL Sah, K Masuda, La Jolla, California, USA

GP34. The difference in spine specimen DXA BMD between in-situ and in-vitro scans  
J Tan, M Kayanja, S St. Clair, Akron, Ohio, USA

GP35. Normal axial and bending stiffness of motion segments are preserved on implantation of a novel mono-block elastomeric total disc replacement  
J Naylor, D McNally, Nottingham, UK

GP36. Comparison of the activities of the deep trunk muscles measured using intramuscular and surface electromyography  
Y Okubo, K Kaneoka, A Imai, I Shiina, M Tatsumura, S Izumi, S Miyakawa, Tsukuba, Ibaraki, Japan

GP37. Analysis of the muscle activity during active pelvic tilting motion  
S Takaki, K Kaneoka, Y Okubo, S Otsuka, K Miyamoto, M Tatsumura, I Shiina, S Miyakawa, Tsukuba, Ibaraki, Japan

GP38. The analysis of trunk and lower extremity muscular activation during rugby scrimmaging  
S Otsuka, K Kaneoka, Y Okubo, S Takaki, K Miyamoto, M Tatsumura, I Shiina, S Miyakawa, M Takemura, Tsukuba, Ibaraki, Japan

Deformity

GP39. Hydatid infestation of the spine - a long term follow-up  
S Govender, Durban, South Africa

GP40. Selective posterior decompression and short segmental fusion of degenerative lumbar scoliosis  
M Xianglong, H Yong, S Qingjun, G Li, Y Jincai, L Shibao, K Nan, Z Lei, Beijing, China

GP41. Change of pelvic tilt before and after gait in patients with lumbar degenerative kyphosis  
WJ Kim, JW Kang, S Il Kang, KY Park, Daejon, Korea
GP42. Curve progression and decompensation after posterior short-segment fusion for degenerative lumbar scoliosis
M Kanayama, D Togawa, T Hashimoto, K Shigenobu, F Oha, Hokkaido, Japan

GP43. The role of posterior spinal fusion in healed post-tubercular lumbar kyphosis in children
V Trivedi, S Deshpande, Meerut, UP, India

GP44. Surgical management of post traumatic kyphosis by single stage anterior reconstruction
M Mossaad, AS Mohamed, Cairo, Egypt

GP45. Radiologic analysis of postoperative sagittal plane correction in lumbar degenerative kyphosis (LDK)
W J Kim, JW Kang, SII Kang, KY Park, Daejon, Korea

Disc Degeneration/Arthritis

GP46. Tobacco smoke exposure induces degenerative changes in intervertebral discs
N Vo, D Wang, G Sowa, W Witt, P Coelho, P Di, J Lee, J Kang, Pittsburgh, Pennsylvania, USA

GP47. Clinical and radiological outcomes of an anterior lumbar plate for lumbar plate for lumbar interbody fusion: Two year results of a prospective study
D Ardern, R Morcom, B LaRue, A Oakley, R Fraser, Tauranga, New Zealand

GP48. Double knockout of ADAMTS4 AND ADAMTS5 (aggrecanase-1&2) mice are not protected from spontaneous aging-associated intervertebral disc degeneration
L Jing, KD Allen, R Tang, I King, A-M Malfait, LA Setton, J Chen, Durham, NC, USA

GP49. Chronic psychosocial stress leads to increased rates of disc degeneration
Z Buser, N Aurouer, S Degmetich, B Yoo, E Liebenberg, M Dallman, JC Lotz, San Francisco, CA, USA

GP50. Production of a natural disc scaffold for intervertebral disc tissue engineering
KY Chan, VYL Leung, V Tam, WW Lu, KY Sze and KMC Cheung, Hong Kong, N/A China

GP51. Improving predictions of outcomes for surgical and non-operative treatment of intervertebral disc herniation (IDH)
TD Tosteson, A Pearson, J Lurie, W Zhao, W Abdu, S Mirza, AN Tosteson, J Weinstein, Lebanon, New Hampshire, USA

GP52. Histological features of the degenerating intervertebral disc in the goat disc-injury model
Y Zhang, S Drapeau, HS An, D Markova, B Lenart, DG Anderson, Chicago, IL, US

GP53. Imaging of cartilage surface degeneration in facet joint osteoarthritis
AR Hemmad, WC Bae, S Ongwijitwat, T Yoshikawa, B Burbach, A Sou, RL Sah, K Masuda, La Jolla, CA, USA

GP54. Interleukin-17 synergizes with IFNγ or TNFα to promote inflammatory mediator release and intercellular adhesion molecule-1 (ICAM-1)
Gabr MA, Setton LA, Jing L, Sinclair SM, Shamji MF, Richardson WJ, Fitch RD, Chen J, Durham, NC USA

GP55. Small interference RNA (siRNA) of ADAMTS4 and ADAMTS5 in nucleus pulposus cells in vitro and effects of ADAMTS5 siRNA in the rabbit anular needle puncture model.
S Seki, Y Abe, Y Kawaguchi, K Asanuma, K Masuda, T Kimura, Toyama, Japan

GP56. Structured co-culture of stem cells and disc cells prevent degeneration in a rat model
AA Allon, N Aurouer, B Yoo, E Liebenberg, Z Buser, JC Lotz, San Francisco, CA, USA
GP57. A detailed microscopic examination of alterations in normal annular structure induced by mechanical destabilisation in an ovine model of disc degeneration.  
M. Schollum, R Appleyard, CB Little, J Melrose, St. Leonards, NSW, Australia

Health Economics/Epidemiology

GP58. Impact of self-reported musculoskeletal pain on health-related Quality Of Life among young adults  
M Paananen, S Taimela, J Auvinen, T Tammelin, P Zitting, J Karppinen, Oulu, Finland

GP59. The etiology of subchondral bone cysts in the lumbar facet joint  
T Ogawa, Y Oishi, Y Murata, T Inoue, Y Hayashi, M Murase, J Hamawaki, A Tachibana, K Saftyo, Hiroshima, Japan

GP60. Vascular disease and facet joint osteoarthritis: is there an association?  
P Suri, DJ Hunter, J Rainville, A Guermazi, JN Katz, Boston, MA, USA

GP61. Economic impact of minimally invasive spine surgery: Ppen v. MIS spinal fusion: Costs in the perioperative period (first 45 days)  
WB Rodgers, B Vanconia, John Lucio, J Patterson, Jefferson City, MO, USA

GP62. Does mental status deteriorate following osteoporotic vertebral fracture? Prospective cohort study  
M Hoshino, H Nakamura, T Tsujiio, H Terai, T Namikawa, A Matsumura, M Kato, A Suzuki, K Takayama, Osaka, Japan

GP63. The risk assessment of fall in the patients with lumbar spinal stenosis  
HJ Kim, OD Han, SH Moon, HJ Chun, KT Kang, HS Kim, JO Park, ES Moon, BR Kim, JH Park, JS Sohn, HM Lee, Seoul, Korea

HNP

GP64. Evaluation of behavior and neuropeptide markers of pain in a simple sciatic nerve injury pain model in rats  

GP65. Effect of locally administered etanercept into injured rat sciatic nerve  
K Kato, S Kikuchi; S Konno; VI Shubayev, RR. Myers, Fukushima, Japan

GP66. Minimally invasive treatment of recurrent disk herniation via XLIF  
WB Rodgers, EJ Gerber, J Patterson, Jefferson City, Missouri, USA

GP67. Changes in expression of MRNA for Interleukin-8 and effects of inhibition of microglia in the spinal dorsal horn in a rat model of lumbar disc herniation  

GP68. Long-term attenuation of hindpaw pain response after pulsed radiofrequency application on dorsal root ganglion in lumbar disc herniated rat model  

GP69. Changes in expression of sodium channels in trkA positive neurons in the dorsal root ganglion following disc puncture. An experimental study in rats.  
K Watanabe, K Larsson, B Rydevik, S Kikuchi, S Konno, K Olmarker, Fukushima, Japan
Clinical outcome following aggressive bilateral posterior discectomy for excision of contained lumbar disc herniation

**JH Kim, HJ Moon, JJ Park, JK Suh, YK Park, Seoul, South Korea**

Central and peripheral nervous system effects of nucleus pulposus exposure

**E Nilsson, K Rask, HB Henriksson, I Hammar; H Brisby, Gothenburg, Sweden**

Outcomes of nonsurgical treatment of lumbar disc herniation in older adults

**P Suri, DJ Hunte, C Jouve, C Hartigan, J Limke, J Luz, J Rainville, Boston, MA, USA**

**Imaging/Diagnosis**

Femoral neurogram to assess the anatomic course prior to a transpsoas spinal access to the L4-5 intervertebral disc space

**TT Davis, HW Bae, A Rasouli, B King, RB Delamarter, Santa Monica, CA, USA**

The relationship between the finding of calcification of aorta and both the grade of lumbar spondylosis and bone mineral density

**Y Kawaguchi, M Nobukiyo, M Nakano, S Seki, H Sainoh, T Kimura, Toyama, Japan**

Radiographic evaluation of the instability in degenerative lumbar scoliosis (DLS)

**H Yasuda, A Matsumura, S Takahashi, T Matsumoto, S Dozono, A Suzuki, H Toyoda, H Terai, Nakamura Hiroaki, Osaka, Japan**

Relationship between sagittal instability factors and disc degeneration examined by lumbar MRI

**T Iguchi, T Ozaki, T Chin, N Tsumura, A Kanemura, Kasahara, K Nishida, M Doita, Kobe, Japan**

Lumbar spinous process morphology and the influence of age

**CEW Aylott, RA Puna, PA Robertson, Auckland, New Zealand**

Effect of MRI on perception of disability in low back pain

**OL Osti, S Zahari, J Ooi and J Baranoff, North Adelaide, South Australia, Australia**

Lumbar facet and interfacet shape variation during growth in children from the general population: A three years follow-up MRI study.

**Y Masharaw, P Kjaer, T Bendix, C Manniche, TS Jensen, Tel Aviv, Israel**

The sagittal spinal alignment in patients with lumbar degenerative disease: a comparative study 193 cases

**K Endo, H Suzuki, D Kimura, H Kobayashi, H Tanaka, S Tanaka, K Yamamoto, Tokyo, Japan**

Modified magnetic resonance spectroscopy diagnosis of painful and non-painful lumbar intervertebral discs

**SS Hu, J Peacock, J Claud, J Lotz, DS Bradford, SH Berven, San Francisco, CA, USA**

“Skipped” level disc degeneration of the lumbar spine, a MRI study of 1989 individuals

**Kenneth M.C. Cheung, Dino Samartzis, Jaro Karppinen, Florence P.S. Mok, Hong Kong, China**

Cone Beam CT Scan vs. fluoroscopy: a cadaveric study comparing accuracy, time and radiation doses

**A Gibson, D Karahalios, J-P Mobasser, E Potts, S Burch, San Francisco, CA, USA**
GP84. Morphological study of lumbar facet joint and the sagittal alignment in patients with degenerative spondylolisthesis
W Alimasi, K Endo, D Kimura, H Suzuki, H Kobayashi, H Tanaka, S Tanaka, K Yamamoto, Tokyo, Japan

GP85. On-site intra-op “Scrape cytology” of transpedicular biopsy of vertebral body lesions
J Naresh-Babu, G Neelima, Ch. Venkata Swamy, Hyderabad, Andhra Pradesh, India

GP86. Correlation of excessive facet joint fluid levels with surgical outcomes after decompressive surgery without fusion for lumbar degenerative disease.
S Maki, Y Aoki, Y Ikeda, F Nakajima, S Moriya, K Takahashi, S Ohtori, M Yamagata, Chiba, Japan

GP87. New CR image processing condition optimized for improving the visibility of preoperative marking image in posterior lumbar spinal surgery
Y Takeshita, J Kunogi, S Masuyama, S Ogihara, T Tsukanishi, N Kamiya, Tokyo, Japan

GP88. Lumbar facet joint subchondral bone thickness measurement using MRI
CY Duan, HS An, AA Espinoza Orías, GBJ Andersson, JZ Hu, HB Lu, N Inoue, Chicago, Illinois, US

GP89. The use of orthogonal plain radiographs in determining the position of thoracic pedicle screws: are they reliable?
N Kumar, N Guo-Xin, WH Kit, Singapore

GP90. In vivo measurement of lumbar vertebral endplates 3D surface area in healthy volunteers
AA Espinoza Orías, HS An, GBJ Andersson, N Inoue, Chicago, Illinois

GP91. 2D/3D reconstruction of a scaled lumbar vertebral model from a single fluoroscopic image
G Zheng, LP Nolte, SJ Ferguson, Bern, Switzerland

GP92. Do the deep muscles of the trunk contribute the stability of the lumbar spine? Evaluation by MR Fluoroscopy
M Hangai, K Koizumi, M Dohi MD, K Kaneoka, T Okuwaki, Tokyo, Japan

Low Back Pain

GP93. Evaluation recovery after lumbar surgeries using a novel quantitative electrodiagnostic method: Magnetic stimulation of paraspinal muscles evoked cerebral potentials
LS Zhu HT Hee, YC Chan, Y Zhu, HK Wong, Singapore

GP94. Two years follow-up of pain and disability in patients with Modic type 1 end-plats changes
E Kääpä, M Grönblad, Helsinki, Finland

GP95. The effect of a radiographic solid fusion for segmental instability on clinical outcome after minimally invasive transfornal lumbar interbody fusion
Y Park, JW Ha, YT Lee, HS Chong, NY Sung, SY Kim, Kyonggi, South Korea

GP96. Which lumbosacral structures are more likely injured after motor vehicle accident, lifting injury, or a fall? A retrospective audit.
MJ DePalma, JM Ketchum, M Ruchala, D Powell, A Kouchouch, BS Trussell, Richmond, Virginia, US

GP97. The factors for the postoperative low back pain in lumbar disc herniation
M Iwabuchi, K Murakami, H Taguchi, N Sugeno, K Otani, Fukushima, Japan
GP98. Nerve growth factor antagonism attenuates discogenic low back pain in rats

GP99. P75 neurotrophin receptor (P75NTR) modulates the NGF signalling pathway rather than tropomyosin-related kinase A (TrkA) in rat discogenic pain models

GP100. Prevalence of disc, facet joint or sacroiliac joint pain in low back pain patients utilizing an algorithmic approach
MJ DePalma, JM Ketchum, M Ruchala, A Kouchouk, D Powell, BS Trussell, Richmond, VA, US

GP101. Which grade of annular fissure is more frequently associated with low back pain reduction during analgesic discography?
MJ DePalma, JM Ketchum, J-E Lee, R Derby, Richmond, VA, US

GP102. Clinical and kinematic evaluation of osteopathy vs specific exercises in obese non-specific chronic low back pain females patients: A randomized controlled trial
F Zaina, L Vismara, F Menegoni, M Galli, S Negrini, V Villa, P Capodaglio, Milan, Italy

GP103. Quantitative analysis of the effects of obesity and low back pain on gait in female patients
F Zaina, L Vismara, V Cimolin, M Crivellini, M Galli, P Capodaglio, S Negrini, Milan, Italy

GP104. Clinical value of finger floor distance in lumbar spinal disorders
J Omata, M Kanayama, D Togawa, K Miyagishima, A Yuasa, T Ashimoto, Hakodate, T Ito, Hokkaido, Japan

GP105. Effects of individualised acupuncture on the quality of the life of patients with chronic non-specific low back pain
T Kikuchi, Y Yamaguch, H Omata, T Mimura, M Nakazawa, H Isobe, Ke Takahashi, Saitama, Japan

Non-Operative Treatment

GP106. Low back pain-related QOL after nerve root block may predict the prognosis: An analysis using the Roland-Morris Disability Questionnaire
S Yabuki, S Konno, S Kikuchi, Fukushima, Japan

GP107. Effective spinal rehabilitation - An uncomplicated exercise approach
V Mooney, T Dreisinger, K Raiszadeh, J Mayer, Tampa, Florida, USA

GP108. Significance of bony bridges in the healing process of vertebral burst fractures in senile osteoporosis
S Urayama, Toyama, Japan

GP109. Technical difficulty in transforaminal epidural steroid injection in far-lateral herniation of lumbar disc

GP110. Correlation between fracture healing status and Euroqol Score (EQ-5D) during conservative therapy for osteoporotic vertebral compression fractures
D Togawa, M Kanayama, F Oha, K Shigenobu, K Nagahama, T Hashimoto, Hakodate, Hokkaido, Japan
GP111. Effect of corticosteroids on chondrocyte of zygapophyseal (facet) joint
T Miyazaki, S Kobayashi, K Takeno, A Meir, H Baba, Eiheiji, Fukui, Japan

GP112. Cell therapy with human umbilical cord blood-derived mesenchymal stem cells for intervertebral disc repair in cultured rabbit disc explants
Y Zhang, D Markova, B Saitta, V Markov, M Enomoto-Iwamoto, HS An, A Chee, G Anderson, Chicago, IL, US

GP113. Caudal epidural injections under image intensifier guidance (epidurogram) A prospective study using validated outcome measures
R Pulavarti, K Yeoh, K Wellington, M Khatri, Preston, Lancashire, UK

GP114. Effect of a high efficiency cognitive behavioural exercises approach to chronic low back pain: A retrospective controlled trial with long term follow up
F Zaina, S Negrini, S Atanasio, C Fusco, V Ziliani, S Chessari, M Rmano, Milan, Italy

GP115. Classifying patients with low back pain: factors aggravating or relieving patient’s symptom
A Fujiwara, Y Nohara, N Kobayashi, K Saiki, Tochigi, Japan

GP116. Pain quality in patients with back symptoms
A Fujiwara, Y Nohara, Tochigi, Japan

Rehabilitation/Psychological/Outcomes

GP117. Early active rehabilitation after surgery for lumbar disc herniation: A prospective randomized control trial
K Ishida, Y Umeno, H Yoshimoto, S Satoh, Hokkaido, Japan

GP118. Is there any validity of our new clinical pathway for patients after lumbar discectomy?
N Ishigaki, T Aihara, J Ouchi, Y Saito, T Sanada, K Hatakeyama, Chiba, Japan

GP119. Are MIS spinal fusion outcomes predictable? Factors of statistically significant outcomes predictability in minimally invasive spinal fusions
WB Rodgers, EJ Gerber, JRPatterson, Jefferson City, MO, USA

GP120. The impact of psychiatric comorbidity on the return to work in patients undergoing herniated disc surgery
HJ Meisel, M Zieger, M Lupp, L Günther, J Meixensberger, R Toussaint, K Stengler, MC Angermeier, H-H König, SG Riedel-Heller, Halle, Germany

GP121. Fear-avoidance beliefs and views of low back pain in adolescents – Can information make a change?
Y Henrotin, M Marty, I Parmentier, B Henot, A Lebouquin, C Cedraschi, Créteil, France

GP122. Development of a documentation instrument for the conservative treatment of spinal disorders in the international spine registry Spine Tango
C Röder, T Zweig, M Melloh, J Kessler, Bern, Switzerland

GP123. Are changes in pain and disability after a programme of “Spine Stabilisation Exercises” contingent upon improvements in the voluntary activation of transversus abdominis?
AF Mannion, N Pulkovski, F Caporaso, H Sprott, Zürich, Switzerland

Spondylolisis: Isthesis

GP124. XLIF for grade II spondylolisthesis at L4-5: the "worst case" scenario
WB Rodgers, J Patterson, Jefferson City, MO, USA
GP125. Factors affected to clinical outcomes of decompression surgery without fusion for degenerative lumbar spondylolisthesis

A Minamide, M Yoshida, H Yamada, H Hashizume, Y Nakagawa, M Kawai, H Iwasaki, S Tsutsui, M Okada, M Kioka, Y Ishimoto, K Nagata, Wakayama City, Wakayama, Japan

GP126. Clinical outcomes of minimally invasive technique for direct repair of lumbar spondylolysis

T Sakai, K Sairyo, H Kosaka, N Yasui, Tokushima, Japan

GP127. The effects of spondylolysis on hip degeneration

NU Ahn, MH Abdulian, Cleveland, Ohio, USA

GP128. Pars repair technique & rationale of treatment in adults

SN Kumar, VG Gowda, A Kumar, Wong, Singapore

GP129. The orientation of lumbar pars defects as a considerably causative factor in isthmic spondylolysis: Biomechanical and therapeutic implications

H-J Lo, S-W Yang, Y-H Tsuang, Taichung, Taiwan

Stenosis

GP130. Relationships between spino-pelvic parameters in patients with lumbar canal stenosis

H Suzuki, K Endo, H Kobayashi, H Tanaka, K Yamamoto, Tokyo, Japan

GP131. Qualitative grading of severity of lumbar spinal stenosis based on morphology of the dural sac on MRI images

C Schizas, N Theumann, A Burn, R Tansey, D Wardlaw, F Smith, G Kulik, Lausanne, Switzerland

GP132. Evaluation of ossified lesions in the whole spine and surgical results in patients with ossification of the posterior longitudinal ligament

Y Kawaguchi, M Nakano, T Yasuda, S Seki, T Kimura, Toyama, Japan

GP133. Development and validation of symptom scale of a lumbar spinal stenosis

M Sekiguchi, T Wakita, K Otani, Y Onishi, S Fukuhara, S Kikuchi, S Konno, Fukushima, Japan

GP134. A bi-dimensional approach to measurement of physical function and abilities

L Matheson, V Mooney, J Verna, S Leggett, T Dreisinger, J Mayer, Tampa, Florida, USA

GP135. The influence of midline preservation (MLP) vs midline sacrifice (MLS) upon facet joint morphology in lumbar decompressive surgery – A cross sectional anatomical study

DR Aponso, PA Robertson, Auckland, New Zealand


K Nishida, M Doita, K Maeno, K Kakutani, T Yurube, Z Zhang, J Yamamoto, T Iguchi, M Kurosaka, Kobe, Hyogo, Japan

GP137. Lumbar decompression followed by Coflex™ Interlaminar Implant vs. pedicle screw posterior lateral fusion for treatment of stenosis

KA Pettine, Christian Schlicht, Loveland, CO, USA

GP138. The interspinous ligament should be removed for decompression with a case of lumbar spinal canal stenosis

Yohei Yuzawa, Tokyo, Japan

GP139. The synovitis of the facet joint at the responsible intervertebral level may induce cauda equina syndrome in lumbar spinal canal

K Sato, K Yamauchi, B Takayama, Fukushima, Japan
GP140. Developmental narrow spinal canal in patients with lumbar spinal stenosis
H Iizuka, KE Takahashi, T Torio, F Saito, K Kawamura, Y Okano, Saitama, Japan

GP141. Lumbar spinal stenosis with peripheral arterial disease
K Uesugi, M Sekiguchi, S Kikuchi, M Kanayama, K Takahashi, C Kazuhiro, M Doita, Y Toribatake, H Matsuo, Y Matsuyama, S Yasumura, K Yonenobu, S Konno, Fukushima, Japan

GP142. Relationship between lumbar spinal stenosis and lifestyle-related disorders
K Uesugi, M Sekiguchi, S Kikuchi, M Kanayama, K Takahashi, C Kazuhiro, M Doita, Y Toribatake, H Matsuo, Y Matsuyama, S Yasumura, K Yonenobu, S Konno, Fukushima, Japan

GP143. Relations between disc degeneration parameters and ligamentum flavum hyperthrophy
JJ Munns, HS An, AA Espinoza Orías, GBJ Andersson, R Takatori, N Inoue, Chicago, Illinois, US

Surgery

GP144. Lumbar fusion in octogenarians: The promise of minimally invasive surgery
WB Rodgers, EJ Gerber, J Patterson, Jefferson City, MO, USA

GP145. Survivorship analysis of interspinous spacer for treatment of lumbar spinal stenosis and disc herniation
JB Park, C-G Kong, Y-Y Kim, H-Y Won, Uijeongbu, Korea

GP146. Spinal surgery in patients with end-stage renal disease undergoing hemodialysis therapy
S-U Kuh, I-H Han, H-C Park, D-K Chin, K-S Kim, B-H Jin, Y-S Yoon, Y-E Cho, Seoul, South Korea

GP147. Restoration of vertebral height and correction of kyphosis after kyphoplasty
KH Kim, S-U Kuh, Y-M Park, D-K Chin, Y-S Yoon, Y-E Cho, Seoul, South Korea

GP148. The optimal indications and treatment results of minimally invasive transforaminal lumbar interbody fusion
Y Park, JW Ha, YT Lee, NY Sung, Kyonggi, South Korea

GP149. Is our health care system working for spinal surgery patients?
A Henley, AH McGregor, London, UK

GP150. Evaluation of an educational booklet following spinal surgery
A Henley, AH McGregor, London, UK

GP151. Cost comparison of total disc replacement vs. fusion in patients with insurance denial for disc replacement
D Ohnmeiss, C Hume, R Guyer, J Zigler, S Blumenthal, Plano, TX, USA

GP152. The surgical management of degenerative lumbar spondylolisthesis: A comparative study of outcomes following decompression with fusion and microendoscopic decompression
T Aihara, J Oouchi, Y Saitou, T Sanada, K Hatakeyama, N Ishigaki, T Ezure, Chiba, Japan

GP153. Predictors of serum chromium levels following stainless steel posterior spinal instrumentation for adolescent idiopathic scoliosis
MD Rackham, TP Cundy, G Antoniou, BJ C Freeman, LM Sutherland, PJ Cundy, North Adelaide, Australia
GP154. Low back pain after lumbar discectomy in patients showing endplate Modic type 1 change

GP155. Advantages of the paraspinal approach in comparison with conventional midline approach for S1 pedicle screw placement
M Ota, M Neo, S Fujibayashi, M Takemoto, T Nakamura, Kyoto, Japan

GP156. Contra lateral side transient neuralgia following microscopic bilateral decompression via a unilateral approach for lumbar canal stenosis: Its frequency and clinical characteristics
H Toyoda, S Konishi, M Kato, S Dozhono, H Nakamura, Osaka, Japan

GP157. Percutaneous vertebroplasty with calcium phosphate cement for osteoporotic vertebral fractures: analysis of the poor clinical outcome
M Nakano, Y Kawaguchi, T Kimura, N Hirano, Toyama, Japan

GP158. Long-term follow-up study of vertebroplasty with calcium phosphate cement for osteoporotic vertebral fractures
M Nakano, Y Kawaguchi, T Kimura, N Hirano, Toyama, Japan

GP159. Surgical outcomes after bilateral decompression using a unilateral approach in lumbar degenerative disease: Is this procedure adequate for patients with bilateral symptoms?
Y Aoki, S Maki, K Shimizu, Y Ikeda, F Nakajima, M Yoshihara, J Iwasaki, K Takahashi, S Ohtori, M Yamagata, Chiba, Japan

GP160. Dynamically evoked, discrete-threshold electromyography (EMG) in the extreme lateral interbody fusion (XLIF®) approach
WB Rodgers, MD Peterson, AG Tohmeh, IJ Volcan, JT Cummings, F Sandhu, ST Yoon, V Deviren, W Taylor, Jefferson, City. Missouri, USA

GP161. Minimally invasive lumbar fusion (XLIF) using a βTCP-HA bone graft substitute (formagraft): fusion rates out to 1 year
WB Rodgers, EJ Gerber, J Patterson, Jefferson City, Missouri, USA

GP162. Prospective, non-randomized, multi-center clinical evaluation of extreme lateral interbody fusion (XLIF) in the treatment of adult scoliosis
WB Rodgers, AG Tohmeh, JA Hyde, K Khajavi, MD Peterson, V Deviren, D Dinh, KT Huntsman, LA Hunt, J Malcolm, WD Smith, TS Yoon, IJ Volcan, Jefferson City, Missouri, USA

GP163. CT fusion assessment in XLIF patients at 1 year
WB Rodgers, EJ Gerber, J Patterson, Jefferson City, Missouri, USA

GP164. Safety and the learning curve of trans-sacral fusion (AxiaLIF) at L5-S1: Complications in the first 166 surgeries of a single surgeon series
WB Rodgers, EJ Gerber, J Patterson, Jefferson City, Missouri, USA

GP165. Biomechanical implant behavior and extrusion risk of an in-situ cured silicone rubber nucleus replacement implanted through a transsacral approach
H-J Wilke, P Zelenkov, K Werner, Ulm, Germany

GP166. Relationship between adjacent segmental degeneration and range of motion of the implant segment after lumbar TDR
H Yong, L Shibao, W Qingyi, Z Chenshan, K Nan, G Li, M Xianglong, Z Lijin, Beijing, China

GP167. Prospective randomized series comparing Maverick™ lumbar Total Disc Replacement (TDR) with Anterior Lumbar Interbody Fusion (ALIF) with five year follow up
KA Pettine, Christian Schlicht, Loveland, CO, USA
GP168. Intra-operative conversion of attempted lumbar total disc replacement to fusion: Incidence and causes  
SL Blumenthal, DD. Ohnmeiss, RD Guyer, JE. Zigler, Plano, TX, USA

GP169. Prospective evaluation of the Charite™ lumbar artificial disc replacement with minimum three-year follow up  
KA Pettine, Christian Schlicht, Loveland, CO, USA

GP170. Spine surgery at an Ambulatory Surgery Center  
KA Pettine, Christian Schlicht, Loveland, CO, USA

GP171. Extreme lateral interbody fusion (XLIF) in the morbidly obese  
WB Rodgers, EJ Gerber, J Patterson, Jefferson City, Missouri, USA

GP172. Health-related quality of life in surgically treated lumbar disc herniation patients -long-term follow-up  
K Rönnberg, B Lind, B Zoega, K Hallidin, H Brisby, Gothenburg, Sweden

GP173. 10 year follow up of AcroFlex total disc replacement: Overall favourable clinical results despite high failure rate  
AR Meir, S Fowler, RD Fraser, London, UK

GP174. Retrospective comparative analysis of degenerative lumbar spondylolisthesis treated with posterolateral fusion (PLF) with bone morphogenic protein (BMP) 2 with or without additional transfornaminal lumbar interbody fusion (TLIF)  
S Mehta, B Goss, R Williams, Mumbai, Maharashtra, India

GP175. Clinical and radiological fusion rates following transfornaminal lumbar interbody fusion (TLIF) with silicate substituted calcium-phosphate bone graft substitute without ICBG for the surgical treatment of degenerative lumbar spine disease.  
M Aubin, J Drew, M Eskander, J Eck, P Connolly, A Lapinksy, Worcester, MA, USA

GP176. Hybrid combined total disc replacement and fusion procedures in the lumbar spine: Clinical and radiographic outcome  
SL Blumenthal, S Saqqa, RD Guyer, JE Zigler, DD. Ohnmeiss, Plano, TX, USA

GP177. How does spinal surgery affect the brain's control of the trunk and legs?  
Y Buisson, M Catley, J Guzman Lopez, AH. McGregor, PH Strutton, London, UK

GP178. Analysis of adjacent segment re-operation following lumbar total disc replacement  
SL. Blumenthal, S Rainey, JE Zigler, RD Guyer, DD Ohnmeiss, Plano, TX, USA

GP179. Does the fusion level influence the outcome of single-level posterior lumbar fusion for degenerative disease?  
F Lattig, T Fekete, D Grob, D Jeszenszky, F Kleinstueck, U Mutter, F Porchet, AF Mannion, Zürich, Switzerland

GP180. The influence of segmental sagittal alignment on the development of adjacent segment disease after spinal fusion surgery  
K Shah, AJ Nedopil, S Berven, San Francisco, CA, USA

GP181. Computer-assisted spinal osteotomy: A technical note and report of four cases  
S Fujibayashi, M Neo, M Takemoto, M Ota, T Nakayama, J Toguchida, T Nakamura, Kyoto, Japan

GP182. Lumbar destructive spondyloarthropathy - Results of surgical treatments with simple decompression, rigid fixation, and flexible stabilization  
K Amano, J-Ichi Kunogi, T Takemura, A Gotoh, Ibaraki, Japan
GP183. The clinical study on the unilateral pedicle screw fixation in lumbar spinal fusion
J Zhao, Shanghai, P. R. of China

Trauma Instability

GP184. Comparison of kyphoplasty and lordoplasty for the treatment of osteoporotic vertebral compression fracture
SB Kim, T-S Jeon, W-S Lee, J-Y Roh, Y-M Heo, J-W Yi, W-K Park, S-H Kim, B-H Oh, C-M Hwang, Daejeon, South Korea

GP185. Conversion to hypertrophic vertebral pseudarthrosis following percutaneous vertebroplasty
S Kawaguchi, K Horigome, H Yajima, T Oda, Y Kii, M Yoshimoto, T Takebayashi, T Yamashita, Fukushima, Japan

GP186. Endoscopic vertebroplasty without instrumentation for insufficient bone union with neurological deficit following osteoporotic vertebral fracture
A Suzuki, T Tsujio, M Hoshino, H Terai, H Toyoda, T Matsumoto, H Yasuda, S Takahashi, H Nakamura, Osaka, Japan

GP187. Delayed-onset paralysis and its anatomic cause following osteoporotic vertebral fracture
K Otani, S Kikuchi, S Konno, K Sato, M Iwabuchi, Fukushima, Japan

Tumor Infection

GP188. Treatment of spinal discitis and vertebral body osteomyelitis – Are current treatment guidelines followed?
RM. Garcia, JE Murphy, SA Qureshi, CG Furey, NU Ahn, HH. Bohlman, EH Cassinelli, Cleveland Heights, Ohio, US

GP189. Existence of pyogenic spondylitis in Modic type 1 change without other signs of infection – 2 year follow-up
S Ohtori, M Yamashita, K Yamauchi, MT Koshi, M Suzuki, S Orita, Y Eguchi, G Inoue, Y Aoki, T Ishikawa, G Arai, M Miyagi, H Kamoda, M Suzuki, Ka Takahashi, Chiba, Japan

GP190. Nanoporous silicon particles (NSP) as a chemotherapeutic delivery system for the treatment of spinal metastases
BK Weiner, E Tasciotti, M Ferrari, H Smith, Houston, TX, USA

GP191. Nanoporous silicon particles (NSP) as a delivery system for the treatment of spinal infections.
BK Weiner, E Tasciotti, M Ferrari, H Smith, Houston, TX, USA

GP192. A novel classification system for spinal instability in neoplastic disease: An evidence based approach and expert consensus from the spine oncology study group

GP193. Epidemiology of lumbar pyogenic spondylitis in last decade
H Aono, T Ohwada, S Suzuki, S Okuda, K Ariga, H Tobimatsu, T Fuji, Motoki Iwasaki, Osaka, Japan

GP194. Surgical treatment of spinal extradural arachnoid cysts in thoracolumbar spine
H Funao, M Nakamura, T Tsuji, K Watanabe, K Ishii, M Matsumoto, M Kamata, Y Toyama, K Chiba, Tokyo, Japan
GP195. Indications and limitations of conservative treatment for pyogenic spondylitis in comparison with surgical intervention (with special reference to lumbar lesion)
   H Miyamoto, K Fukuda, K Uno, Y Inui, T Suzuki, Kobe, Japan

GP196. Surgical site infection of the spine: construction of a predictive model to define need for single versus multiple irrigation and debridement
   C DiPaola, D Saravanja, L Boriani, M Boyd, B Kwon, S Paquette, M Dvorak, C Fisher, J Street, Worcester, MA, USA

GP197. Microbiological spectrum of significant spinal wound infections
   D Saravanja, L Boriani, C Dipaola, J Street, C Fisher, B Kwon, M Boyd, S Paquette, M Dvorak. Chatswood, NSW, Australia

GP198. Post-operative infection treatment score for the spine (PITSS): Validation of a predictive model to define need for single versus multiple irrigation and debridement for spinal surgical site infection

GP199. Risk factors for postoperative infection following posterior lumbar instrumented fusion
   AA Sama, E Gausden, AP Hughes, FP Girardi, FP Cammisa, New York, NY, USA

GP200. Epidermoid tumor of the cauda equina
   M Morita, A Miyauchi, H Aono, S Okuda, T Oda, M Iwasaki, Osaka, Japan