



CSRS 39th Annual Meeting

**December 8 – 10, 2011
The Phoenician – Scottsdale, Arizona**

Jeffrey C. Wang, MD - Program Chair
Sanford E. Emery, MD - President

FOUNDED 1973

Thursday, December 8, 2011

Grand Ballroom

7:15 am – 7:25 am	Welcome and Announcements Jeffrey C. Wang, MD
Session I Moderators	BEST PAPERS I Sanford E. Emery, MD and Jeffrey C. Wang, MD
7:25 – 7:31 am Paper #1	New Intraoperative Spinal Cord Monitoring Using Double-train Transcranial Electrical Stimulation Sho Kobayashi, MD, PhD ; Tomohiko Hasegawa, MD, PhD; Yu Yamato, MD, PhD; Tatsuya Yasuda, MD; Yukihiko Matsuyama, MD, PhD
7:32 – 7:38 am Paper #2	Early versus Late Surgical Decompression for Traumatic Cervical Spinal Cord Injury: Results of the Surgical Trial in Acute Spinal Cord Injury Study (STASCIS) Michael Fehlings, FACS, FRCSC, MD, PhD ; Alexander Vaccaro, FACS, MD, PhD; Jefferson R Wilson, MD; Bizhan Aarabi, FACS, MD; Marcel Dvorak, FRCSC, MD; Charles Fisher, FRACS, MD, MSc; David Cadotte, MD, MSc; Raja Rampersaud, FRCSC, MD; Anoushka Singh, PhD; Christopher Shaffrey; Stephen Lewis, FRCSC; James S Harrop, MD; Paul Arnold, FACS, MD; David Okonkwo, FACS, MD, PhD
7:39 – 7:45 am Paper #3	Accelerated Development of Cervical Spine Instabilities in Rheumatoid Arthritis -A Prospective Minimum Five-Year Follow-Up Study Takashi Yurube, MD ; Masatoshi Sumi, MD; Kotaro Nishida, MD; Hiroshi Miyamoto, MD; Shuichi Kaneyama, MD; Minoru Doita, MD
7:46 – 7:52 am Paper #4	Neuroprotective Therapy using Granulocyte Colony-stimulating Factor for Acute Spinal Cord Injury: A Multicenter Prospective Controlled Clinical Trial Hiroshi Takahashi, MD ; Masashi Yamazaki, MD, PhD; Akihiko Okawa, MD, PhD; Masayuki Hashimoto, MD, PhD; Mitsuhiro Hashimoto, MD; Takeo Furuya, MD, PhD; Tsuyoshi Sakuma, MD; Kei Kato, MD; Takayuki Fujiyoshi, MD, PhD; Kota Suda, MD; Haruki Ueda, MD; Tomomichi Kajino, MD; Yasuo Ito, MD; Takayoshi Ueta, MD; Kazuhisa Takahashi, MD, PhD; Masao Koda, MD, PhD
7:53 – 7:59 am Paper #5	Congenital Stenosis and Symptomatic Adjacent Segment Disease Jason D Eubanks, MD ; Jon Belding, MD; Andrew Rowan, MD, MS; Gable Moffitt, BS; Vinay Cheruvu, BS; Justin Hohl, MD; Henry Bohlman, MD; James D Kang, MD
8:00 – 8:06 am Paper #6	Acute Inpatient Complications after Traumatic Cervical Spinal Cord Injury: An analysis of data on 435 Subjects in the Surgical Trial in Acute Spinal Cord Injury Study (STASCIS) Jefferson R Wilson, MD ; Michael G Fehlings, FRCSC, MD, PhD; Alexander Vaccaro, FACS, MD, PhD; Bizhan Aarabi, FACS, MD; Marcel Dvorak, FRCSC, MD; Paul Arnold, FACS, MD; Raja Rampersaud, FRCSC, MD
8:07 – 8:21 am	Discussion
Session II Moderators	BEST PAPERS II K. Daniel Riew, MD and Michael G. Fehlings, MD, PhD
8:22 – 8:28 am Paper #7	The Natural History of Asymptomatic Cervical Stenosis: A Prospective Study with 1-12 Year Follow-up K Daniel Riew, MD ; Michael P Kelly, MD; Moon Soo Park, MD, PhD; Carie R Kennedy, RN; Barbara J Merz, RN; Karen Hall; Kathleen Pinkston
8:29 – 8:35 am Paper #8	A Novel Experimental Model of the Cervical Spondylotic Myelopathy Spyridon K Karadimas, MD ; Eun Su Moon, MD, PhD; Kajana Satkunendrarajah, PhD; Michael G Fehlings, FRCSC, MD, PhD

8:36 – 8:42 am Paper #9	What is the Incidence of Dysphagia after Posterior Cervical Surgery? Kris A Radcliff, MD; Loukas Koyonos, MD; Corey T Clyde, BS; Christopher K Kepler, MBA, MD; Alan S Hilibrand, MD; Alexander R Vaccaro, MD; Todd J Albert, MD; Jeffrey A Rihn, MD
8:43 – 8:49 am Paper #10	Preoperative Vitamin D Status of Adults Undergoing Spinal Fusion Surgery Geoffrey E Stoker, BS; Jacob M Buchowski, MD, MS ; Keith H Bridwell, MD; Lawrence G Lenke, MD; K. Daniel Riew, MD; Lukas P Zebala, MD
8:50 – 9:04 am	Discussion
9:05 – 9:07 am 9:08 – 9:53 am	Introduction of Presidential Guest Speaker – Sanford E. Emery, MD Presidential Guest Speaker – Dr. Robert W. Corell, Principal for the Global Environment Technology Foundation and its Center for Energy and Climate Solutions,
9:54 – 10:20 am	BREAK
Session III Moderators	BIOMECHANICS Bruce V. Darden, II, MD and Darrel S. Brodke, MD
10:21 – 10:27 am Paper #11	Disc Deformation During Flexion-Extension in Asymptomatic Controls and Single-Level Fusion Subjects William J Anderst, MS ; William F Donaldson III, MD; Joon Y Lee, MD; James D Kang, MD
10:28 – 10:34 am Paper #12	Biomechanical Evaluation of Salvage Pedicle Screw Fixation Techniques for the Instrumentation around Cervicothoracic Junction Jae Taek Hong, MD ; Howard S An, MD; Alejandro Espinoza, PhD; Nozomu Inoue, PhD; Tomoyuki Takigawa, MD
10:35 – 10:41 am Paper #13	Mid-Cervical Trans-facet Screws Provide Increased Construct Stability: A Biomechanical Study Brandon D Lawrence, MD ; Alpesh Patel, MD; Michael D Daubs, MD; Darrel S Brodke, MD
10:42 – 10:48 am Paper #14	The Role of Soft Tissue Restraints Following Type II Odontoid Fractures in the Elderly – A Biomechanical Study C Maxwell J McCabe, MD; Stewart D McLachlin, MSc; Stewart I Bailey, FRCSC, MD; Kevin R Gurr, FRCSC, MD; Cynthia E Dunning, PhD; Chris S Bailey, FRCSC, MD, MSc
10:49 – 10:55 am Paper #15	Malaligned Dynamic Cervical Plate: A Biomechanical Analysis of Effectiveness Brandon Lawrence, MD; Michael Daubs, MD; Darrel Brodke, MD; Alpesh Patel, MD
10:56 – 11:10 am	Discussion
11:10 – 12:10 pm	Symposium I – “Current Controversies in Posterior Cervical Reconstruction” Alan S. Hilibrand, MD
11:10 – 11:30 am	Foraminotomy for Spondylotic Radiculopathy PRO - K. Daniel Riew, MD CON – Rick C. Sasso, MD Rebut & Discuss
11:30 – 11:50 am	Laminoplasty in the Straight Spine PRO - John G. Heller, MD CON - Todd J. Albert, MD Rebut & Discuss
11:50 – 12:10 pm	Pseudarthrosis Repair Best Done Posteriorly - Jeffrey D. Coe, MD Best Done Anteriorly - Thomas A. Zdeblick, MD Should we even look for a Pseudarthrosis? – Jonathan A. Grauer, MD Discussion
12:10 – 1:10 pm	LUNCH

1:10 – 1:40 pm
Moderator

Research Session
Robert F. Heary, MD

Announcement of 2011 21st Century Premier Donor Research Grant Winners
Funded by the CSRS Research & Education Premier Donors:
Aesculap Synthes Spine
Medtronic Stryker Spine

21st Century Research & Education Grants

Seed/Starter Research & Education Grants

Resident/Fellow Research & Education Grants

Introduction – 2010 Research Grant Updates

Discussion

Session IV
Moderators

BASIC SCIENCE

Lee H. Riley, III, MD and John M. Rhee, MD

1:41 – 1:47 pm
Paper #16

Granulocyte colony stimulating factor (G-CSF) reduced neuropathic pain in patients with acutely progressing compression myelopathy: analyses of clinical trial cases
Kei Kato; Masashi Yamazaki; Tsuyoshi Sakuma; Hiroshi Takahashi; Mitsuhiro Hashimoto; Takeo Furuya; Masayuki Hashimoto; Masao Koda; Akihiko Okawa; Kazuhisa Takahashi

1:48 – 1:54 pm
Paper #17

Intervertebral Total Disc Replacement with a Tissue Engineered Construct. Final in-vivo Outcomes of a Murine Caudal Spine Study
Andrew R James, FRCS, MBBS; Robby D Bowles, PhD; Harry Gebhard, MD; Lawrence J Bonassar, PhD; Roger Hartl, MD

1:55 – 2:01 pm
Paper #18

Successful Fusion Rates from Bone Graft Substitutes in a Rodent Spine Arthrodesis Model: A Meta-Analysis of 27 Peer-reviewed Studies
Wellington K Hsu, MD; Daniel J Fuchs, MD; Paul A Anderson, MD

2:02 – 2:08 pm
Paper #19

Correlation of Cervical Disc Disease with Fibronectin-Aggregan Complex (FAC), Inflammatory Cytokines and Matrix Metalloproteinases
S Raymond Golish, MD; Agnes Ith, MD; Eugene Carragee, MD; Ivan Cheng, MD; Todd Alamin, MD; Lewis Hanna, PhD; **Gaetano Scuderi, MD**

2:09 – 2:15 pm
Paper #20

Substance P Stimulates Production of Interleukins IL-1 β and IL-6 in Human Cervical Nucleus Pulposus and Annulus Fibrosis Cells
Christopher K Kepler, MD; Dessislava Z Markova, PhD; Alan S Hillbrand, MD; Ravi K Ponnappan, MD; Alexander R Vaccaro, MD, PhD; Todd J Albert, MD; D. Greg Anderson, MD

2:16 – 2:30 pm

Discussion

2:30 – 3:00 pm

BREAK

Session V
Moderators

CERVICAL ARTHROPLASTY I

Alpesh A. Patel, MD and Rick C. Sasso, MD

3:01 – 3:07 pm
Paper #21

Five-Year Results of the ProDisc-C Multi-Center Randomized Clinical Trial
Daniel B Murrey, MD; **Jack E Zigler, MD**; Jeffrey A Goldstein, MD; Bruce Darden, MD; Richard Delamarter, MD

3:08 – 3:14 pm
Paper #22

Total Disc Replacement in Cervical Spine: 4-7 Years Follow-up for Primary Outcomes and Symptomatic Adjacent Segment Disease
Pierce D Nunley, MD; Domagoj Coric, MD; Ajay Jawahar, MD, MS; Eubulus J Kerr III, MD; Charles Gordon, MD; Phillip A Utter, MD; Margaret Boltes, RN; Marolyn Stocks, RN; David A Cavanaugh, MD

3:15 – 3:21 pm
Paper #23

Clinical and Intraoperative Outcomes of 119 Patients Receiving Either Total Disc Replacement or Anterior Cervical Fusion: Minimum 24-Month Combined Follow-up Data from Six FDA IDE Trials at a Single Site
Jack E Zigler, MD; Richard D Guyer, MD; Scott L Blumenthal, MD; Michael S Hisey, MD; Amy M Atanasov, PhD; **Donna D Ohnmeiss, PhD**

3:22 – 3:28 pm Paper #24	5-Year Reoperation Rates: Cervical Total Disc Replacement vs. Fusion. Results of a Prospective, Randomized Clinical Trial Rick B Delamarter, MD ; Daniel Murrey, MD; Jack Zigler, MD; Michael Janssen, MD
3:29 – 3:35 pm Paper #25	Index and Adjacent Level Kinematics Following Cervical Arthroplasty: Results from a FDA Investigational Device Exemption Trial of Mobi-C Cervical Artificial Disc Michael S Hisey, MD ; Hyun W Bae, MD; Reginald Davis, MD; Steven Gaede, MD; Pierce D Nunley, MD; Daniel Peterson, MD; John K Stokes, MD; Ralph F Rashbaum, MD; Greg Hoffman, MD; Kee Kim, MD
3:36 – 3:50 pm	Discussion
Session VI Moderators	SPINAL CORD INJURY Jeffrey S. Fischgrund, MD and Timothy A. Garvey, MD
3:51 – 3:57 pm Paper #26	Combined Transplantation of Human Neuronal and Mesenchymal Stem Cells Following Spinal Cord Injury Don Y Park, MD; Robert Mayle, MD; R. Lane Smith, PhD; Ian Corcoran-Schwartz, BS; Glen Kajiyama, BS; Alexander I Kharazi, MD, PhD; Ivan Cheng, MD
3:58 – 4:04 pm Paper #27	Plasticity of the Injured Human Cervical Spinal Cord: Insights Revealed by Functional Spinal MRI Using Unique SEEP Imaging David W Cadotte, MD, MSc ; Michael G Fehlings, FACS, FRCSC, MD, PhD
4:05 – 4:11 pm Paper #28	Pre-evaluated Safe Human iPS Clone Derived Neural Stem Cells Promoted Functional Recovery after Spinal Cord Injury without Tumorigenicity in Adult Common Marmosets Yoshiomi Kobayashi, MD ; Yohei Okada, MD, PhD; Hiroki Iwai, MD; Soraya Nishimura, MD; Satoshi Nori, MD; Tsunehiko Konomi, MD; Kanehiro Fujiyoshi, MD, PhD; Osahiko Tsuji, MD, PhD; Yoshiaki Toyama, MD, PhD; Shinya Yamanaka, MD, PhD; Hideyuki Okano, MD, PhD; Masaya Nakamura, MD, PhD
4:12 – 4:18 pm Paper #29	In Vivo Myelin Map can Predict Functional Prognosis after Contusion Spinal Cord Injury in Common Marmosets Tsunehiko Konomi, MD ; Kanehiro Fujiyoshi, MD, PhD; Keigo Hikishima, PhD; Yuji Komaki; Osahiko Tsuji, MD, PhD; Hideyuki Okano, MD, PhD; Yoshiaki Toyama, MD, PhD; Masaya Nakamura, MD, PhD
4:19 – 4:33 pm	Discussion
Session VII Moderators	CERVICAL MYELOPATHY Robert A. Hart, MD and Langston T. Holly, MD
4:34 – 4:40 pm Paper #30	Neuroprotective Therapy using Granulocyte-colony Stimulating Factor for Patients with Acute Progressive Compression Myelopathy: a Prospective Case Control Study Tsuyoshi Sakuma, MD ; Masashi Yamazaki, PhD; Masao Koda, PhD; Akihiko Okawa, PhD; Mitsuhiro Hashimoto, MD; Takeo Furuya, PhD; Hiroshi Takahashi, PhD; Kei Kato, MD; Toshimi Aizawa, PhD; Atsushi Ono, PhD; Shiro Imagama, PhD; Tokumi Kanemura, PhD; Kazuhisa Takahashi, PhD
4:41 – 4:47 pm Paper #31	Life Expectancy of Elderly Patients with Cervical Myelopathy Receiving Surgical Treatment Taito Itabashi, MD ; Futoshi Suetsuna, MD; Yoshifumi Harada, MD
4:48 – 4:54 pm Paper #32	Prediction of Lower Limb Functional Recovery after Laminoplasty for Cervical Myelopathy: Focusing on the 10 Second Step Test Hiroaki Nakashima, MD ; Yasutsugu Yukawa, MD; Keigo Ito, MD; Masaaki Machino, MD; Shunsuke Kanbara, MD; Daigo Morita, MD; Shiro Imagama, MD; Naoki Ishiguro, MD; Fumihiko Kato, MD
4:55 – 5:01 pm Paper #33	Neck-Shoulder Crossover: How Often Do Neck and Shoulder Pathology Masquerade as the Other? J Jonathan N Sembrano, MD ; Sharon C Yson, MD; Okezika C Kanu, BS; Edward Rainier G Santos, MD; Jonathan P Braman, MD; Alicia K Harrison, MD; David W Polly, Jr., MD
5:02 – 5:15 pm	Discussion
5:30 pm	Adjourn

7:15 – 7:20 am	Announcements
Session VIII Moderators	LAMINOPLASTY John G. Heller, MD and Alexander J. Ghanayem, MD
7:21 – 7:27 am Paper #34	In Vivo Three-Dimensional Kinematic Change of the Cervical Spine after Laminoplasty for Cervical Spondylotic Myelopathy Yukitaka Nagamoto ; Motoki Iwasaki; Takahito Fujimori; Masafumi Kashii; Hideki Yoshikawa; Kazuomi Sugamoto
7:28 – 7:34 am Paper #35	Loss of Lordosis Following Cervical Laminoplasty Samuel M Davis, MD; John M Rhee, MD
7:35 – 7:41 am Paper #36	Progression of Ossification of Posterior Longitudinal Ligament following Laminoplasty Dong-Ho Lee, MD, PhD ; Nam Heun Kim, MD; Chang Ju Hwang, MD, PhD; Choon-Sung Lee, MD, PhD; Yung-Tae Kim, MD, PhD; K. Daniel Riew, MD
7:42 – 7:48 am Paper #37	Selective Open-door Laminoplasty Reduce Postoperative C5 Palsy by Reducing Excessive Posterior Shift of Spinal Cord Takashi Tsuji ; Kota Watanabe; Naobumi Hosogane; Ken Ishii; Masaya Nakamura; Kazuhiro Chiba; Yoshiaki Toyama; Morio Matsumoto
7:49 – 7:55 am Paper #38	Prophylactic Bilateral C4-5 Foraminotomy with Open-Door Laminoplasty does not Influence Postoperative Axial Pain and Segmental Instability Masayuki Ohashi, MD ; Akiyoshi Yamazaki, MD; Keiichi Katsumi, MD; Hirokazu Shoji, MD; Yasuaki Suhara, MD; Yu Satoh, MD
7:56 – 8:10 am	Discussion
Session IX Moderators	CERVICAL FUSION Frank S. Eismont, MD and Thomas E. Mroz, MD
8:11 – 8:17 am Paper #39	The Fate of a Delayed Union Following an ACDF: A Post-Hoc Analysis of Data From A Prospective, Multicenter Trial K Daniel Riew, MD; John Heller, MD; Rick Sasso, MD; Michael P Kelly, MD; Paul A Anderson; Michael P Kelly, MD
8:18 – 8:24 am Paper #40	Time Course of Early-Phase Inflammatory Indexes after Anterior Cervical Discectomy and Fusion using Allograft and Demineralized Bone Matrix Jong-Beom Park, MD ; Chae-Gwan Kong, MD
8:25 – 8:31 am Paper #41	Effect of Intravenous Dexamethasone on Prevertebral Soft Tissue Swelling after Anterior Cervical Discectomy and Fusion Jung Sub Lee, MD ; Dong-Ho Lee; Jong Min Lim, MD; Tae Sik Goh, MD; Jeung Il Kim, MD; Kuen Tak Suh
8:32 – 8:38 am Paper #42	Extension of Posterior Cervical Fixation Constructs across the Cervicothoracic Junction does not Decrease the Risk of Adjacent Level Disease Wesley Hsu, MD ; Ryan Kretzer, MD; Kaisorn Chaichana, MD; Michael Dorsi, MD; Timothy Witham, MD
8:39 – 8:45 am Paper #43	Sagittal Alignment as a Predictor of Adjacent Segmental Disease after Anterior Cervical Arthrodesis Moon Soo Park, MD ; Michael P Kelly, MD; Dong-Ho Lee, MD; Woo-Kie Min, MD, PhD; Ra'Kerry Rahman, MD; K. Daniel Riew, MD
8:36 – 8:50 am	Discussion
8:51 – 8:56 am 8:57 – 9:27 am	Introduction of CSRS President, Sanford E. Emery, MD – Michael G. Fehlings, MD PRESIDENTIAL ADDRESS – Sanford E. Emery, MD
9:28 – 9:33 am	Preview CSRS USA 2012 Annual Meeting, Chicago, IL – Alexander J. Ghanayem, MD
9:34 – 9:39 am	Preview CSRS 2012 European Section Meeting, Rai, Amsterdam – Phillippe Bancel, MD
9:40 – 9:45 am	Preview CSRS 2012 Asia Pacific Section Meeting, JR Hakata City, Fukuoka, Japan – Kazuhiro Chiba, MD

9:45 – 10:05 am	BREAK
10:05 – 11:05 am 10:05 – 10:07 am	Symposium II – “Current Controversies in Anterior Grafting Options” Review: K. Daniel Riew, MD
10:07 – 10:12 am	Controversy #1: Graft Material Autograft or Freeze-dried or Fresh Frozen Allograft or Peek: Pros & Cons – Howard S. An, MD
10:12 – 10:20 am	Panel Commentary: Sanford E. Emery, MD; Edward C. Benzel, MD; Michael G. Fehlings, MD; Vincent C. Traynelis, MD; Jeffrey C. Wang, MD
10:20 – 10:26 am	Audience Questions/Comments/Poll
10:26 – 10:31 am	Controversy #2: BMP Should BMP ever be Used in the Anterior Cervical Spine given Risks of Swelling, Death and Cancer? – Ronald A. Lehman, Jr., MD
10:31 – 10:39 am	Panel Commentary: Sanford E. Emery, MD; Edward C. Benzel, MD; Michael G. Fehlings, MD; Vincent C. Traynelis, MD; Jeffrey C. Wang, MD
10:39 – 10:45 am	Audience Questions/Comments/Poll
10:45 – 10:50 am	Controversy #3: Low Profile Instrumentation – John M. Rhee, MD
10:50 – 10:58 am	Panel Commentary: Sanford E. Emery, MD; Edward C. Benzel, MD; Michael G. Fehlings, MD; Vincent C. Traynelis, MD; Jeffrey C. Wang, MD
10:58 – 11:05 am	Audience Questions/Comments/Poll
Session X Moderators	SURGICAL ISSUES John C. France, MD and James S. Harrop, MD
11:06 – 11:12 am Paper #44	High Cervical (C3,C4) Radiculopathy: Clinical Characteristics and Results of Surgical Management Safdar N Khan, MD; Debdut Biswas, MD; Freddie Ntumu, BS; Aaron Heligman, BS; Thomas Cha, MD; Howard S An, MD
11:13 – 11:19 am Paper #45	Incidence of Undiagnosed Neurological Disorders in Hip Fracture Patients Kris A Radcliff, MD; Patrick Curry, MD; Roman Trimba, MD; Jeffrey Walker, MD; Christopher K Kepler, MBA, MD; Jeffrey A Rihn, MD; Alexander R Vaccaro, MD; Todd J Albert, MD; Alan S Hilibrand, MD
11:20 – 11:26 am Paper #46	Assessment of Pre-surgical Psychological Screening in Patients Undergoing Spine Surgery: Implementation and Clinical Impact Arthur K Young; Benjamin K Young; Lee H Riley, MD; Richard Skolasky, PhD
11:27 – 11:33 am Paper #47	Microscope Sterility During Spine Surgery Jesse E Bible, MD; Kevin R O'Neill, MD; Colin G Crosby, MD; Jonathan G Schoenecker, MD, PhD; Matthew J McGirt, MD; Clinton J Devin, MD
11:34 – 11:40 am Paper #48	A Sterile-Free hand Reduction Technique for Corrective Osteotomy of Fixed Kyphotic Deformity in Cervical Spine Sang-Hun Lee, MD; Ki-Tack Kim, MD; Kyung-Soo Suk, MD; Man-Ho Kim, MD; Dae-Hyun Park, MD
11:41 – 11:55 am	Discussion
Session XI Moderators	METABOLIC ISSUES Edward C. Benzel, MD and Robert F. Heary, MD
11:56 – 12:02 pm Paper #49	Preoperative Vitamin D Status of Adults Undergoing Cervical and Cervicothoracic Spinal Fusion Surgery Geoffrey E Stoker, BS; Jacob M Buchowski, MD, MS; K. Daniel Riew, MD; Lukas P Zebala, MD; Michael P Kelly, MD
12:03 – 12:09 pm Paper #50	Obesity and Calcification of the Ligaments of the Spine: a Comprehensive CT Analysis of the Entire Spine in a Random Trauma Population Christopher Chaput, MD; Sachin Mehta, BA; Bryce Busenlehner, BA; Mark Rahm, MD; Juhee Song, PhD; Wayne Sampson, PhD
12:10 – 12:16 pm Paper #51	Association of BMP-2 and COL6A1 Gene Polymorphisms with Susceptibility to Ossification of the Posterior Longitudinal Ligament of the Cervical Spine in Korean Patients and Family members Yong Eun Cho, MD, PhD; Kyung Hyun Kim, MD; Sung Uk Kuh, MD, PhD; Jeong Yoon Park, MD, PhD; Keun Su Kim, MD, PhD; Dong Kyu Chin, MD, PhD

12:17 – 12:23 pm
Paper #52 The Effects of Glucosamine Sulfate on Intervertebral Disc Degeneration
Lloydine J Jacobs, MD; Nam Vo, PhD; Paulo Coelho, MS; Nora Sherry, BS; Kazimierz Komperda, BS; James D Kang, MD; Judith Balk, MD; Harry Preuss, MD; Gwendolyn A Sowa, MD, PhD

12:24 – 12:38 pm **Discussion**

12:38 PM Adjourn

Saturday, December 10, 2011

7:15 – 7:25 am Announcements

Session XII
Moderators

TRAUMA
D. Greg Anderson, MD and Timothy A. Moore, MD

7:21 – 7:27 am
Paper #53 Anterior versus Posterior Fixation for an Isolated Posterior Facet Complex Injury in the Subaxial Cervical Spine
Stewart D McLachlin, MSc; Parham Rasoulinejad, MD; Stewart I Bailey, FRCSC, MD; Kevin R Gurr, FRCSC, MD; Cynthia E Dunning, PhD; Chris S Bailey, FRCSC, MD

7:28 – 7:34 am
Paper #54 The AOSpine North America Geriatric Odontoid Fracture Study: A Retrospective Review of Mortality Outcomes in Surgical vs Conservative Treatment in 332 Patients with Long Term Follow-up
Jens R Chapman, MD; Paul Arnold, MD; Alexander Vaccaro, MD; Michael Fehlings, MD; Branko Kopjar, MD

7:35 – 7:41 am
Paper #55 Traditional Cutoffs for Retropharyngeal Soft Tissue Swelling have Poor Sensitivity for the Detection of Cervical Spine Injury: Computed Tomography in Adult Trauma Patients
Jayme R Hiratzka, MD; Jung U Yoo, MD; Jia-Wei K Ko, MD; Shannon Hiratzka, MPH; Alexander Ching, MD

7:42 – 7:48 am
Paper #56 Changing Demographic Characteristics of Second Cervical Vertebral Fractures Among the Elderly US Population (2005-2008)
Natalie L Zusman, BS; Alexander C Ching, MD; **Jung U Yoo, MD**

7:49 – 7:55 am
Paper #57 Incidence of Undiagnosed Cervical Myelopathy in Patients with Odontoid Fractures
Christopher K Kepler, MBA, MD; Julie Shaner, BS; **Todd J Albert, MD**; Alan S Hilibrand, MD; Alexander R Vaccaro, MD, PhD; Kristen A Radcliff, MD

7:56 – 8:10 am **Discussion**

Session XIII
Moderators

SPINAL CORD & SURGICAL ISSUES
Frank M. Phillips, MD and Louis G. Jenis, MD

8:11 - 8:17 am
Paper #58 Early Outcome and Predictors of Early Outcome in Patients Treated Surgically for Central Cord Syndrome
D Greg Anderson, MD; Chris Kepler, MD

8:18 - 8:24 am
Paper #59 Process Benchmarking Appraisal of Early Surgical Decompression for Traumatic Cervical Spinal Cord Injury
Julio C Furlan, MD; Michael G Fehlings, MD

8:25 – 8:31 am
Paper #60 Incidence and Impact of Acute Adverse Events in Patients with Traumatic Spinal Cord Injury
John Street, MD, PhD; Vanessa Noonan, PhD; Marcel F Dvorak, FRCSC, MD

8:32 – 8:38 am
Paper #61 Bailout Screw Placement in the Posterior Subaxial Cervical Spine—Is a Spinolaminar Screw a Viable Option?
Craig A Kuhns, MD; Tyler Jenkins, BS; Ferris Pfeiffer, PhD; Joel Jeffries, MD; Theodore Choma, MD

8:39 – 8:45 am
Paper #62 Ferromagnetic Interactions and Radiofrequency Induced Heating of Small Arms Ballistics in MRI Scanners utilizing Three Different Strength Magnets
Russell Dedini, MD; Duan Xu, MD; Trigg R McClellan, MD; **Murat Pekmezci, MD**

8:46 – 9:00 am **Discussion**

9:00 – 9:02 am **Presentation of CSRS Medallion to Michael G. Fehlings, MD**

9:03 – 9:43 am **POSTERS “LIVE” – 4 Concurrent Sessions**

Trauma: Jens R. Chapman, MD and Paul A. Anderson, MD
Myelopathy: Todd J. Albert, MD and Bradford L. Currier, MD
Surgical Topics: James D. Kang, MD and John S. Kirkpatrick, MD
Arthroplasty & Fusion: Thomas A. Zdeblick, MD and Jack E. Zigler, MD

9:43 – 9:45 am	Poster Awards
9:45 – 10:05 am	BREAK
Session XIV Moderators	COMPLICATIONS Alexander Ching, MD and Francis H. Shen, MD
10:06 – 10:12 am Paper #63	Perioperative Complication Rates associated with Surgical Treatment Based on a Prospective Multicenter Study of 302 Patients Justin Smith, MD ; Christopher Shaffrey, MD; Branko Kopjar, MD; Paul Arnold, MD; Sangwook T Yoon, MD; Alexander Vaccaro, MD; Darrel Brodke, MD; Michael Janssen, DO; Jens Chapman, MD; Rick Sasso, MD; Eric Woodard, MD; Robert Banco, BS; Eric Massicotte, MD; Mark Dekutoski, MD; Ziya Gokaslan, MD; Christopher Bono, MD; Michael Fehlings, MD
10:13 – 10:19 am Paper #64	Dysphagia Following Revision Anterior Cervical Surgery Dong-Ho Lee, MD; Samuel K Cho, MD ; Moon Soo Park, MD; Woo-Kie Min, MD, PhD; K. Daniel Riew, MD
10:20 – 10:26 am Paper #65	Impact of Early and Late Complications on Patient Outcomes following Surgical Treatment of Cervical Spondylotic Myelopathy Based on a Prospective Multicenter Study. The AOSpine North America CSM Study Justin Smith, MD; Christopher Shaffrey, MD; Branko Kopjar, MD; Michael Fehlings, MD; Paul Arnold, MD ; Sangwook T Yoon, MD; Alexander Vaccaro, MD; Darrel Brodke, MD; Michael Janssen, DO; Jens Chapman, MD; Rick Sasso, MD; Eric Woodard, MD; Robert Banco, MD; Eric Massicotte, MD; Mark Dekutoski, MD; Ziya Gokaslan, FACS; Christopher Bono, MD
10:27 – 11:03 am Paper #66	Long-Term Differences in Dysphagia between Cervical Arthroplasty and Anterior Cervical Fusion Scott R Bassuener, MD ; Rick C Sasso, MD
11:04 – 11:15 am	Discussion
Session XV Moderators	CERVICAL ARTHROPLASTY II Claes Olerud, MD and Lali Sekhon, MD
11:16 – 11:22 am Paper #67	Metanalysis of Heterotopic Ossification (HO) following Cervical Artificial Disc Replacement (CADR) Kenneth A Pettine, MD
11:23 – 11:29 am Paper #68	Radiographic Outcomes Including Adjacent Level Degeneration of FDA Investigational Device Trial Comparing Multi-Level Use of Mobi-C Cervical Artificial Disc® to Anterior Discectomy and Fusion Reginald Davis, MD ; Hyun Bae, MD; Stephen Gaede, MD; Michael Hisey, MD; Greg Hoffman, MD; Kee Kim, MD; Pierce D Nunley, MD; Daniel Peterson, MD; John Stokes, MD
11:30 – 11:36 am Paper #69	The In Vivo Wear Patterns, Surface Properties, and Fixation of Cervical Total Disc Replacements - A Retrieval Analysis of Prodisc-C Devices Darren R Lebl, MD ; Frank P Cammisa, MD; Federico P Girardi, MD; Timothy Wright, PhD; Celeste Abjornson, PhD
11:37 – 11:43 am Paper #70	The Clinic Outcome and the Status of Adjacent Segment Degeneration Five Years after Bryan Disc Replacement Yu Sun, MD ; Yanbin Zhao, MD; Feifei Zhou, MD; Fengshan Zhang, MD; Shengfa Pan, MD; Zhongjun Liu, MD
11:44 – 11:55 pm	Discussion
11:56 – 12:00 pm	Closing Remarks – Michael G. Fehlings, MD
12:00 pm	Adjourn