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Assistant Professor, Department of Neurological Surgery
Director, Neurosurgery Spine Program
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Education

B.S., University of Tennessee

Knoxville, Tennessee

Major: Engineering Science (Biomedical Engineering)

September 1986 - May 1990

- Tau Beta Pi Excellence in Engineering Award (1990)

M.D., Medical College of Wisconsin

Milwaukee, Wisconsin

August 1990 - May 1994

Internship, Medical College of Wisconsin Affiliated Hospitals

Milwaukee, Wisconsin

July 1994 – June 1995

Neurosurgery Residency, Medical College of Wisconsin

Milwaukee, Wisconsin

July 1994 – June 2001

Neurosurgical Complex Spine Fellowship, Medical College of Wisconsin

Milwaukee, Wisconsin

July 2001 – June 2002

Licensure and Certification

State of Tennessee, License No. 36289, July 2002 – present (expires 3/31/2009)

State of Wisconsin, License No. 36904, September, 1995 - present (expires 10/31/2009)

Certified Diplomate, American Board of Neurological Surgery - November, 2007

Diplomate of the United States Medical Licensing Examination – June 1995

State of Tennessee License to Practice Medicine and Surgery – May 2002

State of Wisconsin License to Practice Medicine and Surgery – September 1995

Academic Appointments

Department of Veteran Affairs (VA) - Clement J. Zablocki Medical Center

Milwaukee, Wisconsin

- Position: Faculty, Neurological Surgery
July 2001 – June 2002

Medical College of Wisconsin

Milwaukee, Wisconsin

- Position: Clinical Instructor, Spine Services - Neurological Surgery
July 2001 - June 2002

Vanderbilt University

Nashville, Tennessee

- Position: Assistant Professor, Neurological Surgery
Director, Neurosurgery Spine Program
Co-Director, Vanderbilt University Spine and Bone Research Laboratory
July 2002 - Current Position

Nashville Veterans Administration (VA) Medical Center

Nashville, Tennessee

- Position: Attending Surgeon, Section of Neurological Surgery
July 2002 – Current Position
- Position: Chief, Section of Neurological Surgery
July 2002 – August 2004

Hospital Appointments

Nashville Veterans Administration (VA) Medical Center

Nashville, Tennessee

- Position: Attending Surgeon, Section of Neurological Surgery
July 2002 – Current Position
- Position: Chief, Section of Neurological Surgery
July 2002 – August 2004

Nashville General Hospital at Meharry
Nashville, Tennessee

- Position: Courtesy Staff in Neurosurgery, Department of Surgery
July 2004 – January 2006
- Position: Active Staff in Neurosurgery, Department of Surgery
January 2003 – July 2004

St. Thomas Hospital
Nashville, Tennessee

Williamson Medical Center
Nashville, Tennessee

Cool Springs Surgery Center
Nashville, Tennessee

Professional Organizations

American Association of Neurological Surgeons (AANS)

- AANS/CNS Joint Section of Spine and Peripheral Nerves
 - Executive Committee
 - Abstract Review Committee
 - CPT/Reimbursement Committee (*Chairperson*)
 - Scientific Advisory Committee
 - Session Moderator
 - Web Site Committee (*Chairperson*)
- AANS/CNS Trauma Section
- AANS Coding & Reimbursement Professional Courses (*Director*)
- AANS CPT Advisor
- Neurosurgery Spine Section Liaison, CPT/RUC Committee

American Medical Association (AMA)

- Neurosurgery Advisor/Liaison, CPT/RUC Editorial Committee

AO Association for the Study of Internal Fixation (AO/ASIF)

- North America Spine Education Committee (NASEC)
- Controversies in Spine Trauma Symposium (Course Faculty)
- Advanced Concepts in the Management of Spinal Disorders (Course Faculty)
- Principles and Treatments of Spinal Disorders for Residents and Fellows Course (Course Faculty and Chairperson)
- Operating Room Personnel Course (Course Faculty and Chairperson)

Congress of Neurological Surgeons (CNS)

- Affiliated Liaison Program
 - Co-Chairperson
- Education Committee
 - Case of the Month Project
- Information and Technology Committee
- International Committee

- Scientific Program Committee
 - Co-Chairperson, Poster Session 2004
 - Sergeant-at-Arms Committee
 - Co-Chairperson, Annual Meeting 2005
 - Web Editorial Board
- Council of State Neurosurgical Societies (CSNS)
- Executive Committee Member
 - Delegate, State of Tennessee 2005-2008
 - Web Site Subcommittee (Chairperson)
 - Reimbursement Committee
- North American Spine Society (NASS)
- Coding & Reimbursement Committee
 - Elected Term, 2007-2010 (Co-Chairperson)
 - Socio-Economic Affairs Committee
 - Professional Coding and Reimbursement Courses (Faculty)
- Tennessee Neurosurgical Society
- Executive Committee Member
 - President 2003-2004
 - Treasurer 2005-2007
- Wisconsin State Medical Society

Publications and Presentations

- **Peer-reviewed Papers**
 1. “Development and Biomechanical Testing of an Artificial Vertebral Body”, JS Cheng. Master’s Thesis, Marquette University, May 2002.
 2. “Lateral Supratentorial Endodermal Cyst: Case Report and Review of Literature”. JS Cheng, JF Cusick, KC Ho, J Ulmer. *Neurosurgery*, 51(2):493-499, Aug 2002.
 3. “Chiari I Malformation Revisited: Diagnosis and Treatment”. JS Cheng, J Nash, GA Meyer. *The Neurologist*, 8(6):357-362, Nov 2002.
 4. “Chiari Type I Malformation: Overview of Diagnosis and Treatment”. JJ Nash, JS Cheng, GA Meyer, BF Remler. *Wisconsin Medical Journal*, 101(8):35-40, Dec 2002.
 5. “Treatment Strategies for Cervical Adjacent Segment Disease after Cervical Fusion”. JS Cheng, DM Maiman, RM Chambers. *Seminars in Neurosurgery*, 14(1):49-53. Mar 2003.
 6. “Anatomy of the Sacrum (Tumors of the Sacrum)”. JS Cheng, JK Song. *Neurosurgery Focus*, 15(2):1-4 (Article 3). August 2003.
 7. “Evaluation of Photodynamic Therapy Near Functional Brain Tissue in Patients with Recurrent Brain Tumors”. MH Schmidt, GA Meyer, KW Reichert, JS Cheng, HG Krouwer, K Ozker, HT Whelan. *Journal of Neuro-Oncology*, 67(1-2):201-207. Mar-Apr 2004.
 8. “Practice Management Guidelines for the Screening of Thoracolumbar Spine Fracture: Clinical Management Update”. JJ Diaz, DC Cullinane, DT Altman, F Bokhari, JS Cheng, J Como, O Gunter, M Holevar, R Jerome, SJ Kurek, M Lorenzo, V Mejia, M Miglietta, PJ O’Neill, P Rhee, R Sing, E Streib, S

Vaslef. *Journal of Trauma-Injury Infection & Critical Care*. 63(3):709-718, September 2007.

9. "Quadriplegia Due to the Delayed Formation of a Compressive Epidural Cerebrospinal Fluid Collection Following Suboccipital Craniectomy with Duraplasty for Chiari Malformation Type I: Case Report". DM Oberer, OS Aaronson, JS Cheng. *Journal of Neurosurgery – Spine*, 7(4): 450-453. Oct 2007.
 10. "Comparison of Cervical Spine Kinematics Using a Fluoroscopic Model for Adjacent Segment Degeneration". JS Cheng, F Liu, RD Komistek, MR Mahfouz, A Sharma, D Glaser. *Journal of Neurosurgery - Spine*, 7(5):509-513. Nov 2007.
 11. "Immediate Biomechanical Effects of Lumbar Posterior Dynamic Stabilization Above a Circumferential Fusion". BC Cheng, JD Gordon, JS Cheng, WC Welch. *Spine*, 32(23): 2551–2557. Nov 1, 2007.
 12. "In Vivo Evaluation of Dynamic Characteristics of the Normal, Degenerative, Fused, and Disc Replacement Cervical Spines". F Liu, JS Cheng, RD Komistek, MR Mahfouz, A Sharma. *Spine*, 32(23): 2578–2584. Nov 1, 2007.
 13. "Normal, Fused, and Degenerative Cervical Spines: A Comparative Study of 3D In Vivo Kinetics". (Accepted, *Journal of Bone and Joint Surgery*)(JBJS-D-08-00626).
 14. "Rod Derotation Techniques in Scoliosis". JS Cheng, R Lebow, MH Schmidt, J Spooner. (Accepted, *Neurosurgery (Red Journal)*).
 15. "Augmenting Posterior, Oblique Lumbar Interbody Fusion with Non-Rigid versus Traditional Posterior Fixation: An In vitro Kinematic Study". LM Jensen, JD Gordon, WC Welch, JS Cheng, JM Dawson. (Submitted)
 16. "Posterior Cervical Spine Fixation Techniques". JF Cusick, FA Pintar, JS Cheng, JI Lifshutz, N Yoganandan. (Submitted)
 17. "A Novel Surgical Approach Using Laminar Screws for the Treatment of Subaxial Cervical Instability Secondary to a Unilateral Locked Facet: Case Report and Technical Note". DM Oberer, JS Cheng. (Submitted)
 18. "Intermediate-Grade Melanocytoma Presenting as an Intramedullary Mass Lesion: Case Report and Review of the Literature". CB Stevenson, MD Johnson, JS Cheng. (Submitted)
 19. "Biomechanical Effects of Dynamic Stabilization". BC Cheng, JD Gordon, L Jensen, JS Cheng, WC Welch. (Submitted to *Spine*)
 20. "Noninvasive, 3D in vivo motion analysis of flexion/extension among the normal, degenerative, and fused cervical spines by using CT and fluoroscopy images techniques". F Liu, A Sharma, JS Cheng, RD Komistek, MR Mahfouz, D Glaser. (Submitted to *Spine*).
 21. "Thoracic Spine Intramedullary Spindle Cell Lipoma: Case Report". BP Rosenbaum, RL Lebow, H Yu, TW Abel, JS Cheng. (Submitted to *Neurosurgery*).
- **Abstracts and Presentations**
 1. "A Quantitative Analytical Review of Human Spinal Morphology". JS Cheng, N Yoganandan, FA Pintar, DJ Maiman, JF Cusick, L Voo. *Proc Joint*

- Sect Disorders of Spine and Peripheral Nerves, Phoenix AZ, Feb 14-18, 1995, p 179.
2. "A Quantitative Analytical Review of Human Spinal Morphology". JS Cheng, N Yoganandan, FA Pintar, DJ Maiman, JF Cusick, L Voo. American Association of Neurological Surgeons in Minneapolis, MN on Apr 1996.
 3. "Hybrid Approach to the Biomechanical Design of a Dummy Human Neck". N Yoganandan, JS Cheng, FA Pintar, T Shams, N Rangarajan. American Society Mechanical Engineers in Atlanta, GA on Nov 1996.
 4. "Hybrid Approach to the Biomechanical Design of a Dummy Human Neck". N Yoganandan, JS Cheng, FA Pintar, T Shams, N Rangarajan. American Society Mechanical Engineers BED (Advances in Bioengineering), 33:449-450.
 5. "Development of a biomechanically analogous cervical spine physical model". S Kumaresan, P Khouphongsy, B Stemper, D Daruwala, JS Cheng, FA Pintar, N Yoganandan, DJ Maiman. American Society Mechanical Engineers BED (Advances in Bioengineering), 39:155-156, 1998.
 6. "Development of a Biomechanically Analogous Cervical Spine Physical Model". S Kumaresan, P Khouphongsy, B Stemper, D Daruwala, JS Cheng, FA Pintar, N Yoganandan, D Maiman, T Bray. Impact Biomechanics Presentation. International Mechanical Engineering Congress and Exposition in Anaheim, CA on Nov 1998.
 7. "Biomechanically Analogous Cervical Spine Physical Model Using CT Images and Rapid Prototyping Technique". S Kumaresan, FA Pintar, N Yoganandan, DJ Maiman, JS Cheng. Proc 7th Ann Rachidian Soc, Kona HI, Feb 28-Mar 4, 1999, p 20.
 8. "Evaluation of Photodynamic Therapy Near Eloquent Brain Tissue In Patients With Recurrent Brain Tumors". MH Schmidt, JS Cheng, HT Whelan, K Reichert, GA Meyer. Congress of Neurological Surgeons in San Diego, CA on Sep 2001. **First Place Poster Award.**
 9. "A Quantitative Analytical Review of Human Spinal Morphology (Update)". JS Cheng, MH Schmidt, N Yoganandan, FA Pintar, DJ Maiman, JF Cusick. Poster Presentation. Congress of Neurological Surgeons Meeting in San Diego, CA on Sep 2001.
 10. "Intradural versus Extradural Decompression in the Treatment of Adult Chiari Type I Malformations". JS Cheng, J Nash, GM Meyer, B Remler. Rachidian Society Meeting in Kona, HI on Feb 2002.
 11. "Occipital Cervical Biomechanics and Stabilization". JS Cheng, JE Garber. Rachidian Society Meeting in Kona, HI on Feb 2002.
 12. "Crisscross Cervical Facet Fixation: Biomechanical and Clinical Analysis of an Innovative Technique". JS Cheng, JF Cusick, FA Pintar, N Yoganandan. American Association of Neurological Surgeons in Chicago, IL on Apr 2002.
 13. "Intracranial Endodermal Cystic Lesions". JS Cheng, JF Cusick, J Ulmer, KC Ho. Tennessee Neurosurgical Society in Nashville, TN on Aug 2002.
 14. "Artificial Vertebral Body Development for Biomechanical Testing". JS Cheng. Tennessee Neurosurgical Society in Nashville, TN on Aug 2003.

15. "Treatment Strategies for Cervical Adjacent Segment Disease". JS Cheng. Vanderbilt-Meacham Society Meeting in Denver, CO on Oct 2003.
16. "Treatment Strategies for Cervical Adjacent Segment Disease After Cervical Fusion (Including Preemptive Treatment)". JS Cheng, DM Maiman, RM Chambers. Proc Rachidian Society, Kona, HI, Feb 22-26, 2004, p 2.
17. "Motion Preservation in the Surgical Treatment of Hangman's Fractures". J Spooner, P Konrad, JS Cheng. Proc Joint Sect Disorders of Spine and Peripheral Nerves, Phoenix AZ, Mar 9-12, 2005, p65.
18. "Contributions of a Non-Rigid Fixation System to Adjacent-Level Lumbar Motion Above Circumferential Fusion: An in vitro Kinematic Study". B. Cheng, J. Gordon, J. Cheng, W. Welch. Proc Spine Arthroplasty Society, Montréal, Québec, Canada, May 9-13, 2006.
19. "Update on Management of Spinal Cord Injury in Tennessee". JS Cheng. Tennessee Neurosurgical Society Annual Meeting, Chattanooga, TN, Aug 19-20, 2006.
20. "Interim evaluation of prospective multi-center outcome study of anterior lumbar plating for one and two level degenerative disc disease". K Wood, D Kovalsky, P Perkins, T Burd, P Huddleston, S Robbins, B Sachs, M Weinstein, JS Cheng. Proc North American Spine Society 21st Annual Meeting, Seattle, WA, Sept 26-30, 2006.
21. "In Vivo 3D Dynamic Determination of Normal, Degenerative and Fused Cervical Spines". F Liu, RD Komistek, MR Mahfouz, J Cheng. International Society for Technology in Arthroplasty (ISTA) 19th Annual Congress, New York, New York. October 6 -9, 2007. Oral Presentation.
22. "Retroperitoneal transpsoas approach for retrieval of lumbar artificial disc: a cadaveric feasibility study". J Spooner, H Yu, DA Sun, RO Carpenter, PB Segebarth, O Aaronson, JS Cheng. Proc Congress of Neurological Surgeons 56th Annual Meeting, Chicago, IL, Oct 7-12, 2006.
23. "Interim Evaluation of Prospective Multi-Center Outcome Study of Anterior Lumbar Plating for One and Two Level Degenerative Disc Disease". K Wood, D Kovalsky, P Perkins, T Burd, PM Huddleston, S Robbins, B Sachs, JS Cheng. Proc Congress of Neurological Surgeons 56th Annual Meeting, Chicago, IL, Oct 7-12, 2006.
24. "Posterior Oblique Lumbar Interbody Instrumentation with Non-Rigid versus Rigid Posterior Fixation: An In Vitro Kinematic Study". LM Jensen, JD Gordon, JS Cheng, BC Cheng, JM Dawson, WC Welch. Spine Society of Europe Annual Meeting, EuroSpine 2006, Istanbul, Turkey, Oct 25-28, 2006.
25. "In Vivo Dynamic Comparison of Normal, Degenerative, Fused and Disc Replacement Cervical Spines". F Liu, RD Komistek, M Mahfouz, JS Cheng. Proc CSRS Annual Meeting, Palm Beach, FL, Nov 29-Dec 2, 2006.
26. "In Vivo Evaluation of the Dynamic Characteristics of the Normal, Degenerative, Fused and Disc Replacement Cervical Spines". F Liu, JS Cheng, RD Komistek, MR Mahfouz. 53rd Annual Meeting of the Orthopaedic Research Society, San Diego, CA. Feb 11-14, 2007.
27. "In Vivo 3D Quantification of Kinetics Characteristics in the Normal, Degenerative and Fused Cervical Spines". F Liu, JS Cheng, RD Komistek,

- MR Mahfouz, T Furmanski, A Sharma, C Little. American Academy of Orthopaedic Surgeons 2007 Annual Meeting, San Diego, CA Feb 14-18, 2007. Scientific Exhibit.
28. "In Vivo Mechanics Comparison for Various Lumbar Spine Conditions". JS Cheng, RD Komistek, MR Mahfouz, CB Carr, M Damu. American Academy of Orthopaedic Surgeons 2007 Annual Meeting, San Diego, CA Feb 14-18, 2007. Scientific Exhibit.
 29. "In Vivo Mechanics Comparison for Various Lumbar Spine Conditions". JS Cheng, RD Komistek, MR Mahfouz, GD Langston. American Academy of Orthopaedic Surgeons 2007 Annual Meeting, San Diego, CA Feb 14-18, 2007. Podium Presentation, Spine3:Lumbar Spine.
 30. "Comparison of Cervical Spine Kinematics Using an In Vivo 3D Biomechanical Model for Adjacent Segment Degeneration". JS Cheng, F Liu, RD Komistek, M Mahfouz. 2007 AANS/CNS Section on Disorders of the Spine and Peripheral Nerves Annual Meeting, Phoenix, AZ March 7-10, 2007.
 31. "Comparison of Cervical Spine Kinematics Using a Fluoroscopic Model for Adjacent Segment Degeneration". JS Cheng, F Liu, RD Komistek, M Mahfouz. 2007 AANS/CNS Section on Disorders of the Spine and Peripheral Nerves Annual Meeting, Phoenix, AZ March 7-10, 2007. Oral Presentation.
 32. "Interim Evaluation of Prospective Multi-Center Outcome Study of Anterior Lumbar Plating for One and Two Level Degenerative Disc Disease". K Wood, D Kovalsky, S Robbins, P Perkins, T Burd, P Huddleston, B Sachs, JS Cheng, A Appley. 2007 IMAST (International Meeting on Advanced Spinal Techniques) by the Scoliosis Research Society (SRS), Paradise Island, Bahamas Jul 11-14, 2007.
 33. "Comparison of Cervical Spine Kinematics Using a Fluoroscopic Model for Adjacent Segment Degeneration". JS Cheng, F Liu, RD Komistek, M Mahfouz. Congress of Neurological Surgeons 2007 Annual Meeting, San Diego, CA Sep 15-20, 2007.
 34. "Comparison of Cervical Spine Kinematics Using an In Vivo 3D Biomechanical Model for Adjacent Segment Degeneration". JS Cheng, F Liu, RD Komistek, MR Mahfouz. Congress of Neurological Surgeons 2007 Annual Meeting, San Diego, CA Sep 15-20, 2007.
 35. "In Vivo Biomechanical Comparison for Various Lumbar Spine Conditions". JS Cheng, RD Komistek, MR Mahfouz, CB Carr, M Damu. Congress of Neurological Surgeons 2007 Annual Meeting, San Diego, CA Sep 15-20, 2007.
 36. "Anterior Lumbar Plating for One and Two Level Degenerative Disc Disease: Interim Evaluation of a Prospective Multi-Center Outcome Study". K Wood, D Kovalsky, S Robbins, P Perkins, T Burd, P Huddleston, B Sachs, JS Cheng, A Appley. Congress of Neurological Surgeons 2007 Annual Meeting, San Diego, CA Sep 15-20, 2007.
 37. "Determination of In Vivo, Three-Dimensional Motion of the Cervical Spine Under Variable Conditions". JS Cheng, F Liu, RD Komistek, MR Mahfouz.

International Society for Technology in Arthroplasty (ISTA) 20th Annual Congress, Paris, France. October 4 –6, 2007.

38. “Interim Evaluation of Prospective Multi-Center Outcome Study of Anterior Lumbar Plating for One and Two Level Degenerative Disc Disease”. K Wood, D Kovalsky, S Robbins, P Perkins, T Burd, P Huddleston, B Sachs, JS Cheng, A Appley. 2007 North American Spine Society (NASS) Meeting, Austin, TX October 23-27, 2007.
39. “Topical recombinant human thrombin for surgical hemostasis in subjects undergoing spine surgery”. K Renkens, N Singla, JS Cheng, H Lockstadt, T Reynolds. 2007 North American Spine Society (NASS) Meeting, Austin, TX October 23-27, 2007. Oral Presentation.
40. “3D In Vivo Contact Force Determination of Normal, Fused, and Degenerative Cervical Spines”. F Liu, RD Komistek, JS Cheng, MR Mahfouz. International Society for Technology in Arthroplasty (ISTA) 20th Annual Congress, Paris, France. October 4 –6, 2007.
41. “Winds of Change in Neurosurgery: Minimally Invasive vs. Conventional Spine Surgery”. JS Cheng, Southern Neurosurgical Society Annual Meeting 2008, Las Croabas, Puerto Rico Feb 6-9, 2008.
42. “Evaluation of time dependent biomechanical strength in a posterolateral rabbit model using recombinant human Bone Morphogenetic Protein-2 (rhBMP-2) via a new Compression Resistant Matrix (CRM) carrier within three time points”. Orthopedic Research Society 2008 Annual Meeting, San Francisco, CA Mar 2-5, 2008.
43. “Normal, Fused and Degenerative Cervical Spines: A Comparative Study of 3D In Vivo Kinetics”. JS Cheng, F Liu, RD Komistek, MR Mahfouz, A Sharma, DA Glaser. American Academy of Orthopaedic Surgeons 2008 Annual Meeting, San Francisco, CA Mar 5-9, 2008. ***Scientific Exhibit Award of Excellence.***
44. “3D In Vivo Measurement of Coupled Motions in the Cervical Spines under a Full Dynamic Situation”. F Liu, RD Komistek, JS Cheng, MR Mahfouz. American Academy of Orthopaedic Surgeons 2008 Annual Meeting, San Francisco, CA Mar 5-9, 2008.
45. “Three-Dimensional Motion of the Cervical Spine Under Various Clinical Conditions: An In Vivo Study”. JS Cheng, F Liu, RD Komistek, MR Mahfouz. 2008 AANS/CNS Section on Disorders of the Spine and Peripheral Nerves Annual Meeting, Orlando, FL Feb 27-Mar 1, 2008.
46. “Evaluation of Contact Forces in the Normal, Fused, and Degenerative Cervical Spine Using a Three-Dimensional In Vivo Model”. F Liu, RD Komistek, JS Cheng, MR Mahfouz. 2008 AANS/CNS Section on Disorders of the Spine and Peripheral Nerves Annual Meeting, Orlando, FL Feb 27-Mar 1, 2008.
47. “Biomechanics of Cervical Spine Arthroplasty”. JS Cheng. Invited Visiting Professor, University of Saskatoon, Saskatchewan, Canada. Apr 2008.
48. “Decision Making and the Spine Patient for Nurses”. JS Cheng. 2008 Annual Meeting of the American Association of Neurological Surgeons Meeting, Chicago, IL Apr26-May1, 2008.

- **Book Chapters**

1. “Adult and Child – Head Anatomy”. JS Cheng, KW Reichert. *Frontiers in Head and Neck Trauma: Clinical and Biomechanical*. IOS Press, Amsterdam 1998.
2. “The Obese Patient”. JS Cheng, MH Schmidt, WM Mueller, E Benzel. *Spinal Surgery: Techniques, Complication Avoidance, and Management*, 2nd Edition. Harcourt, Inc. Orlando, FL 2004.
3. Book Review: “Spinal Restabilization Procedures: Diagnostic and Therapeutic Aspects of Intervertebral Fusion Cages, Artificial Discs and Mobile Implants”, Elsevier Science B.V., 2002. JS Cheng. *The Spine Journal*, Volume 7, Issue 4, July-August 2007, Pages 506-507.
4. “Neck Pain”. C Devin, K Sillay, JS Cheng. *Kelley’s Textbook of Rheumatology*, 8th edition. (Expected publication, September 2008)
5. “Bone Graft Options, Bone Graft Substitutes and Bone Harvest Techniques”. JS Cheng, R Lebow, T Yao, C Stevenson. *Youman’s Textbook of Neurological Surgery*, 6th Edition. (Pending)

- **Research Grants, Contracts, and Awards**

- NIH**

1. R Komistek, JS Cheng. “Innovative Tools for In Vivo Computational Prediction of Pre-and Post-Operative Lumbar Stresses”. NIH R01 Grant through University of Tennessee, Knoxville.

- Clinical Studies**

1. D Spengler, T Elalayli, JS Cheng. “A Clinical Study of the Performance of the Hedrocel (Implex Corp)”. Clinical IDE Study, Vanderbilt University Medical Center. Implex Corporation/Zimmer Medical Group, 2003.
2. JS Cheng. “Clinical Outcome of Lumbar Degenerative Disc Disease Treated with Anterior Tension Band System (ATB) with ALIF/FRA Spacer”. Clinical Study, Vanderbilt University Medical Center. Synthes, 2005.
3. JS Cheng. “rhThrombin: A Phase 3, Randomized, Double-Blind, Controlled, Comparative Efficacy and Safety Study of Topical Recombinant Human Thrombin (rhThrombin) and Thrombin-JMI (Bovine Thrombin) in Surgical Hemostasis”. Clinical IDE Study, Vanderbilt University Medical Center. Zymogenetics, 2006.
4. JS Cheng, K Eichholz. “Clinical study comparing dynamic stabilization of the lumbar spine with the Stabilimax NZ™ Dynamic Stabilization System to posterolateral instrumented fusion”. *Applied Spine*, 2006.
5. JS Cheng, K Eichholz. “A Prospective and Randomized Controlled Trial to Evaluate the Safety and Effectiveness of Total Facet Arthroplasty System in the Treatment of Degenerative Spinal Stenosis (Clinical IDE)”. Archus US, 2007.
6. JS Cheng. “Duraseal Phase 3 (DS3) Clinical Trial”. Confluent Surgical, 2007.
7. K Eichholz, JS Cheng. “A Multi-Center Observational Study of Patients Undergoing Minimally Invasive TLIF Surgical Approach Compared to Open TLIF Approach”. Depuy Spine, 2007.

Basic Science

1. JS Cheng, T Elalayli, J Gordon. “Biomechanical Evaluation of a Novel Dynamic Neutralization System for Lumbar Arthrodesis”. Centerpulse/Spinetech, Inc., 2003.
2. JS Cheng, T Elalayli, J Gordon. “Creation of an Integrated Biomechanical Laboratory/Feasibility Studies”. Medtronic/Sofamor Danek, Inc., 2003.
3. JS Cheng, J. Song. “Dose Response Characteristics of Platelet Rich Plasma in Bone Fusion Maturation”. Medtronic/Sofamor Danek, Inc., 2005.
4. JS Cheng, K Eichholz. “Comparing Fusion Maturation of Autograft to INFUSE (rhBMP-2/ACS) with Collagen-Ceramic by CT Scan, Mechanical Testing and Histology in the Spine”. Medtronic/Sofamor Danek, Inc., 2007.
5. JS Cheng, M Wang. “Biomechanical evaluation of MACS TL HMA ventral instrumentation system in the osteoporotic thoracic and lumbar spine”. Aesculap, 2007.
6. S Guelcher, G Holt, JS Cheng. “Development of a Polyurethane Composite Osteoconductive Bone Plug”.
7. C Devin, R Davis, JS Cheng. “Method of Treatment for Nonpathologic Compression Spine Fractures”.
8. G Mundy, J Nyman, JS Cheng. “Facilitating Spine Fusions with Statins”.

• **Other Professional Activities**

1. Chairman, “Surgical Skills Lab: Use of Surgical Power Tools in Spinal Surgery”, Vanderbilt University Medical Center, Sep 2002.
2. CME Lecturer, Physician Liaison Program. Vanderbilt University Medical Center.
3. Clinical Instructor, Pediatric ICU Nursing Program. Vanderbilt University Medical Center.
4. Co-Director, Spine Fair. Vanderbilt University Medical Center.
5. Reviewer. Neurosurgery Focus (Journal).
6. OR Committee Member, Spinal Implants and Osteobiologics. Vanderbilt University Medical Center.
7. Interviewer, Medical School Admissions. Vanderbilt University Medical Center.
8. Book Reviewer. The Spine Journal.
9. Patient Complaint Monitoring Committee (PCMC), Vanderbilt University
10. Vanderbilt Spinal Cord Injury Center Development Committee
11. Vanderbilt Center for Clinical Improvement.