

Alan Thomas Villavicencio, M.D.

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PROFESSIONAL EXPERIENCE

- 2011 – present North American Spine Society (NASS)
Education Council Committee
- 2011 – present North American Spine Society (NASS)
CME Committee
- 2009 – present Director, Spine Fellowship Program
Justin Parker Neurological Institute and
Boulder Neurosurgical Associates
- 2009 - present Joint Sponsorship Council Member
American Association of Neurological Surgeons
- 2005 - present Founder and Chairman of the Board
Justin Parker Neurological Institute (fully accredited 501(3)(c))
- 2006 - present Director of Surgery
Minimally Invasive Spine Institute
- 2002 - present Director of Minimally Invasive Spine Surgery Program
Boulder Neurosurgical Associates
- 2002 - present Managing Partner
Director of Research and Development
Boulder Neurosurgical Associates
- 2002 - present Co-Director of Neurosurgery, Boulder Community Hospital
- 2003 - present Chief of Neurosurgery, Longmont United Hospital
- 2005 - present Founder and Director, Trigeminal Neuralgia Program
Boulder Neurosurgical Associates

EDUCATION

- 2001 - 2002 Fellowship, Orthopaedic Spine Surgery
Institute of Spinal Disorders at Cedars-Sinai Medical Center
Advisors: John J. Regan, MD & Patrick Johnson, MD
- 1996 - 2001 Residency, Neurological Surgery
Duke University Medical Center
Durham, North Carolina
- 1995 - 1996 Internship, General Surgery
Duke University Medical Center
Durham, North Carolina
- 1991 - 1995 Doctor of Medicine
Harvard Medical School
Boston, Massachusetts
- 1986 - 1991 Bachelor of Arts
Biochemistry and Cell Biology
Minor: History
Minor: Psychology
University of California at San Diego
San Diego, California

ACADEMIC HONORS AND AWARDS

- 2010 Program Chairman
Advanced Symposium on Cranial and Spinal Surgery
Current Techniques in the Treatment of Cranial and Spinal Disorders
Broomfield, CO
- 2010 Finalist, Mario Boni Award, Cervical Spine Research Society,
European Section, 26th CSRS Annual Meeting, Corfu, Greece
- 2010 Highest ratings (#1 Neurosurgery Program) in the Denver Metro
Area for the services provided at Boulder Community Hospital
- 2009 Best Paper Award
Correlation of Clinical Outcomes and Cervical Sagittal
Alignment: A Prospective Randomized Clinical Study.
24th Annual NASS Meeting, November 10 – 14, 2009,
San Francisco, California.
- 2009 Program Chairman
Advanced Symposium on Cranial and Spinal Surgery
Current Techniques in the Treatment of Cranial and Spinal Disorders

Broomfield, CO

- 2008 Program Chairman
Advanced Symposium on Cranial and Spinal Surgery
Current Techniques in the Treatment of Cranial and Spinal Disorders
Broomfield, CO
- 2008 BrainLab Award for Best Community Neurosurgeon Paper
Patterns of CyberKnife Treatment Failure for Primary and Recurrent
Glioblastoma Multiforme. American Association of Neurological Surgeons
Annual meeting, Chicago
- 2007 Program Chairman
Advanced Symposium on Cranial and Spinal Surgery
Current Techniques in the Treatment of Cranial and Spinal Disorders
- 2006 Research support grant from CyberKnife Society.
CyberKnife Radiosurgery for Trigeminal Neuralgia Treatment
- 2006 Program Chairman
Advanced Symposium on Cranial and Spinal Surgery
Current Techniques in the Treatment of Cranial and Spinal Disorders
- 2006 Research support grant from CyberKnife Society.
Survival Comparison of Newly Diagnosed and Recurrent Glioblastoma
Multiforme Treated with CyberKnife Radiosurgery: A Multicenter Study
- 2006 1st Place Award for the Best Intracranial Research Topic
CyberKnife Radiosurgery for Idiopathic Trigeminal Neuralgia
International CyberKnife Users Meeting
LaCosta Resort, California
- 2005 Program Chairman
Advanced Symposium on Cranial and Spinal Surgery
Current Techniques in the Treatment of Cranial and Spinal Disorders
- 2005 Colorado Traumatic Brain Injury Foundation Research Grant – Clinical
Outcome Correlation with Serum, CSF, Brain Extracellular Magnesium
and other Biochemical Markers Concentrations Following
Traumatic Brain Injury
- 2005 Board Certification
American Association of Neurological Surgeons
- 2004 Distinguished Visiting Professor
The University of Missouri School of Medicine Division of Neurosurgery
Columbia, Missouri.

- 2004 Program Chairman
Advanced Spine Surgery Symposium
Current Techniques in the Treatment of Spinal Disorders
- 2002 Mayfield Award in Clinical Science (co-author)
Unraveling the Enigma of the Filum Terminale: Basic Science and
Clinical Evidence
American Association of Neurological Surgeons
- 1995 Cum Laude
Harvard Medical School
Thesis: Surgery Followed by Radiosurgery in the Treatment of Skull Base
Meningiomas
- 1992 - 1993 Research Training Grant, The Beth Israel Hospital and The National
Institute of Health,
Harvard Medical School
- 1992 - 1993 Research Training Grant, Mass. General Hospital and McLean Hospital,
Harvard Medical School
- 1991 Cum Laude
University of California at San Diego
- 1990 Earl Warren College Academic Multicultural Enrichment Scholarship,
University of California at San Diego
- 1989 Academic Scholar of the Year, UCSD Alumni Association,
University of California at San Diego
- 1988 Academic Excellence and Student Research Scholarship,
National Science Foundation
University of California at San Diego
- 1986 - 1990 Provosts Honor List
University of California at San Diego

RESEARCH AND TEACHING EXPERIENCE

- 2011 – present Principle Investigator
DuraSeal™ Spine System Post-Approval Study. Sponsor –
Covidien.
- 2011 – present Principle Investigator
Prospective Randomized Clinical Trial Comparing PEEK and
Allograft Spacers in Patients Undergoing Spinal Intervertebral
Fusion Surgeries. Sponsor – Justin Parker Neurological Institute.

- 2011 - 2011 Principle Investigator
A Pivotal Clinical Trial Evaluating the Safety and Effectiveness of Adherus Sealant When Used as a Dural Sealant in Cranial Procedures. Sponsor – HyperBranch Medical Technology, Inc.,
- 2009 – present Principle Investigator
A Radiographic and Clinical Study Evaluating a Novel Allogeneic, Cancellous, Bone Matrix Containing Viable Stem and Osteoprogenitor Cells (Trinity Evolution™ Viable Cryopreserved Cellular Bone Matrix in Posterior Lumbar or Transforaminal Lumbar Interbody Fusion. Sponsor – Orthofix Spinal Implants.
- 2009 – 2012 Principle Investigator
Evaluation of safety and Effectiveness of the OsseoFix™ Spinal Fracture Reduction System in Treating Spinal Compression Fracture. Sponsor – Alphatec Spine.
- 2009 – present Sub-Investigator
Clinical Evaluation of the O-ARM Imaging System. Prospective Clinical Study. Sponsor – Medtronic.
- 2008 – 2009 Principle Investigator
An Exploratory Phase 2 Study Evaluating the Efficacy and Safety of Fibrin Sealant, Vapor Heated, Solvent/Detergent Treated (FS VH S/D) 500 S-APR for the Sealing of Dura Defect Sutures in Posterior Fossa Surgery, Sponsor – Baxter BioScience
- 2008 – present Principle Investigator
Clinical Trial Comparing the Advent Cervical Disc to Anterior Cervical Discectomy and Fusion (ACDF) for the Treatment of One Level Degenerative Disc Disease System, Sponsor – Blackstone Medical
- 2007 – 2012 Principle Investigator
Prospective, Multi-center, Randomized, Active-Controlled Study of the Wallis® System for the Treatment of Mild to Moderate Degenerative Disc Disease of the Lumbar Spine, Sponsor – Abbott Spine, Inc.
- 2006 - 2008 Principle Investigator
A Multicenter, Prospective, randomized Controlled Study to Compare Balloon Kyphoplasty to Non-Surgical Fracture Management in the Treatment of Painful, Vertebral Body Compression Fractures in Cancer Patient
- 2005 – 2007 Principle Investigator

A Prospective, Randomized Clinical Study: Clinical Outcome Correlation with Serum, CSF, Brain Extracellular Magnesium and other Biochemical Markers Following Traumatic Brain Injury, Sponsor - Colorado Traumatic Brain Injury Foundation

- 2005 - 2012 Principle Investigator
Pivotal IDE Study of the Wallis Mechanical Normalization System.
Sponsor – Abbott Spine, Inc
- 2005 – 2008 Principal Investigator
Normal Pressure Hydrocephalus (NPH) Registry, Sponsor - Codman & Shurtleff, Inc.
- 2004 - 2011 Principle Investigator
Multi-center FDA IDE Clinical Trial Evaluating the MAVERICK™ Artificial [Lumbar] Disc, Sponsor - Medtronic
- 2003 - 2011 Principle Investigator
Multicenter Trial Evaluating Parallel versus Lordotic Bone Grafts For Single and Multi-level Anterior Cervical Discectomy and Arthrodesis
- 1997 - 2000 Resident Director
Fresh Tissue Cadaveric Dissection Laboratory
Duke University Medical Center
Advisor: Allan H. Friedman, MD
- 1998 - 1999 Laboratory Research
Generation and Efficacy of Peripheral Blood-derived Dendritic Cells Pulsed with Tumor-specific Protein Against Intracerebral Gliomas
Advisors: Darell D. Bigner, MD, PhD and John H. Sampson, M.D., Ph.D.
- 1994 - 1995 Clinical Research
Surgery and Radiosurgery for Skull Base Meningiomas
Brigham and Women's Hospital and Harvard Medical School
Advisors: Peter McL. Black, MD, PhD and Jay S. Loeffler, MD
- 1993 - 1994 Laboratory Research
Behavioral Anatomy of the Rat Nucleus Accumbens Septi. McLean Hospital and Harvard Medical School
Advisor: Ross J Baldessarini, MD
- 1992 - 1994 Laboratory Research
Behavior and Spinal Cord Physiology of Pain
Beth Israel Hospital and Charles A. Dana Research Laboratories and Harvard Medical School
Advisor: David D. Dubuisson, MD, PhD

- 1990 Undergraduate Laboratory Research
Self-Administration of Cocaine in Rats and Bilateral Accumbens
D2 Antagonist Injections
University of Ca. at San Diego and Scripps Research Institute
Advisor: George F. Koob, PhD
- 1989 Undergraduate Teaching Assistant (Biology)
University of Ca. at San Diego
Advisor: Paul Saltman, PhD
- 1988 - 1990 Undergraduate Laboratory Research
Receptor Mechanisms of Sporulation in *S.cerevisiea*
University of Ca. at San Diego
Advisor: Ramon Pinon, PhD

OTHER EDUCATIONAL OR PROFESSIONAL EXPERIENCE AND TRAINING

- 1987 - 1988 Helicopter Rescue Emergency Medical Technician and Forest
Ranger/Fire-fighter
Sequoia National Park, California (seasonal)
- 1987 - 1991 Emergency Medical Technician, Cruz Rojo de Mexico [Red Cross]
Tijuana, Mexico
- 1/1994 - 4/1994 Clinical Clerkship, Medicine and Surgery in Rural Latin America
Columbia, South America

SCIENTIFIC PRESENTATIONS

1. Burneikiene S, Carr F, Nelson EL, Rajpal S, **Villavicencio AT**. Higher Patient Expectations Before Surgery May Be Related to Improved Clinical Outcomes. NASS 26th Annual Meeting November 1-5, 2011, Chicago, Illinois.
2. **Villavicencio AT**. Cervical Sagittal Alignment in the Treatment of Neck Pain and Radiculopathy. 8th Annual Symposium Current Techniques in the Treatment of Cranial and Spinal Disorders. Broomfield, Colorado, October 29, 2011.
3. Babuska J, **Villavicencio AT**, Mason A, Nelson EL, Rajpal S, Burneikiene S. Accuracy Comparison for Intraoperative Biplanar and Volumetric Image Guidance: A Systematic review. 2011 CNS annual Meeting, October 1–6, 2011, Washington, DC.
4. **Villavicencio AT**, Nelson EL, Mason A, Rajpal S, Carr FA, Burneikiene S. The Safety of Transforaminal Interbody Fusion for Deformity Correction in Degenerative Scoliosis with Spinal Stenosis. 79th AANS Annual Meeting, Denver, CO, April 9-13, 2011.
5. **Villavicencio AT**, Nelson EL, Mason A, Babuska J, Carr FA, Rajpal S, Burneikiene S. CO₂ Laser-Assisted Lumbar Fusions: Safety, Clinical Outcomes and Technical Considerations. 79th AANS Annual Meeting, Denver, CO, April 9-13, 2011.
6. **Villavicencio AT**, Burneikiene S, Nelson EL, Mason A. Outpatient Lumbar Fusions – Changing the Standard of Care. 79th AANS Annual Meeting, Denver, CO, April 9-13, 2011.

7. **Villavicencio AT**, Carr FA, Hernandez TD, Healy KM, Nelson EL, Mason A, Rajpal S, Burneikiene S. Effects of Preoperative SF-36 Mental Component Scores and Patient Pain Expectations on Clinical Outcomes Following Anterior Cervical Discectomy and Fusion. 79th AANS Annual Meeting, Denver, CO, April 9-13, 2011.
8. **Villavicencio AT**, Nelson EL, Mason A, Babuska J, Burneikiene S. The Safety of Transforaminal Lumbar Interbody Fusion for Deformity Correction in Degenerative Scoliosis with Spinal Stenosis. AANS/CNS Section on Disorders of the Spine and Peripheral Nerves Annual Meeting, Phoenix, AZ, March 9-12, 2011.
9. **Villavicencio AT** Carr FA, Hernández T, Healy KM, Nelson EL, Mason A, Burneikiene S. Effect of Patient Pain Expectations and Preoperative SF-36 Mental Component Scores on Clinical Outcomes Following Anterior Cervical Discectomy and Fusion. AANS/CNS Section on Disorders of the Spine and Peripheral Nerves Annual Meeting, Phoenix, AZ, March 9-12, 2011.
10. **Villavicencio AT**, Nelson EL, Mason A, Babuska J, Burneikiene S. Efficacy of CO₂ Laser-Assisted Lumbar Fusions: Preliminary Clinical Results. CNS Annual Meeting, San Francisco, CA October 16 – 21, 2010.
11. Carr FA, Hernández T, Healy KM, Nelson EL, Mason A, Burneikiene S, **Villavicencio AT**. Effect of Patient Pain Expectations and Preoperative SF-36 Mental Component Scores on Clinical Outcomes Following Anterior Cervical Discectomy and Fusion. CNS Annual Meeting, San Francisco, CA October 16 – 21, 2010.
12. **Villavicencio AT**, Nelson EL, Mason A, Babuska J, Burneikiene S. The Safety of Instrumented Lumbar Interbody Fusions Performed as an Outpatient Procedure. CNS Annual Meeting, San Francisco, CA October 16 – 21, 2010.
13. **Villavicencio AT**, Nelson EL, Mason M, Babuska J, Carr F, Burneikiene S. Selective Transforaminal Lumbar Interbody Fusion for Degenerative Adult Scoliosis Correction. CNS Annual Meeting, San Francisco, CA October 16 – 21, 2010.
14. **Villavicencio AT**, Nelson EL, Mason A, Carr F, Burneikiene S. Outpatient Instrumented Lumbar Interbody Fusion – Changing the Standard of Care. NASS 25th Annual Meeting October 5-9 2010, Orlando, Florida.
15. **Villavicencio AT**. Spinal Deformity: The Good, the Bad, the Ugly. 7th Annual Symposium Current Techniques in the Treatment of Cranial and Spinal Disorders. Broomfield, Colorado, September 11, 2010.
16. **Villavicencio AT**. Neurosurgery in the 21st Century. 24th HAPS Conference, Denver, CO, May 29 – June 3, 2010.
17. Burneikiene S, Babuska JM, Ashton A, Busch E, Nelson EL, Mason A, **Villavicencio AT**. Prospective Randomized Double Blinded Clinical Study Evaluating the Correlation of Clinical Outcomes and Cervical Sagittal Alignment. 26th Annual Meeting of the European Section of the Cervical Spine Research Society, 26 – 29 May, 2010, Corfu Island, Greece.
18. **Villavicencio AT**, Burneikiene S, Babuska J, Nelson L, Mason A. Correlation of Change in Segmental Sagittal Alignment and Clinical Outcomes after Anterior Cervical Discectomy and Fusion Surgery. American Association of Neurological Surgeons Annual Meeting, Philadelphia, Pennsylvania, May 1-5, 2010.
19. **Villavicencio AT**, Burneikiene S, Nelson L, Mason A. Feasibility of Interbody Lumbar Fusion Performed on an Outpatient Basis. American Association of Neurological Surgeons Annual Meeting, Philadelphia, Pennsylvania, May 1-5, 2010.

20. Burneikiene S, **Villavicencio AT**, Nelson L, Mason A. Outpatient Instrument Lumbar Interbody Fusion. Preliminary Results on Safety and Efficacy. 7th Annual Mazama Spine Summit, Winthrop, WA, March 3-5, 2010.
21. Burneikiene S, **Villavicencio AT**, Nelson L, Mason A, McNeely L. CyberKnife Radiosurgery for Spine Tumors. Spinal Cord and Volume Analysis. 7th Annual Mazama Spine Summit, Winthrop, WA, March 3-5, 2010.
22. Burneikiene S, **Villavicencio AT**, Babuska J, Nelson L, Mason A. Correlation of Clinical Outcomes and Change in Segmental Sagittal Alignment after Anterior Cervical Discectomy and Fusion Surgery. AANS/CNS Section on Disorders of the Spine and Peripheral Nerves Annual Meeting, Orlando, Florida, February 17-20, 2010.
23. **Villavicencio AT**, Nelson L, Mason A, Burneikiene S. Feasibility of Outpatient Interbody Lumbar Fusion. AANS/CNS Section on Disorders of the Spine and Peripheral Nerves Annual Meeting, Orlando, Florida, February 17-20, 2010.
24. Nelson EL, **Villavicencio AT**, Mason A, Burneikiene S. Early Clinical Results of Complex Spinal Instrumentation using Multidimensional Surgical Imaging Systems. 2nd International Spinal Imaging and Navigation Symposium (SINS), November 21, 2009, Seoul, Korea.
25. **Villavicencio AT**, Burneikiene S, Babuska MJ, Ashton A, Busch E, Mason A. Correlation of Clinical Outcomes and Cervical Sagittal Alignment: A Prospective Randomized Clinical Study. 24th Annual NASS Meeting, November 10 – 14, 2009, San Francisco, California.
26. **Villavicencio AT**, Burneikiene S, Babuska JM, Ashton A, Busch E. Prospective Randomized Clinical Study Evaluating the Correlation of Clinical Outcomes and Cervical Sagittal Alignment. 2009 CNS Annual Meeting, October 24 - 29, 2009, New Orleans, Louisiana.
27. **Villavicencio AT**, Babuska JM, Mason A, Burneikiene S. Preliminary Clinical Experience Using a Minimally Invasive Spinous Process Fusion Plate. 2009 CNS Annual Meeting, October 24 - 29, 2009, New Orleans, Louisiana.
28. **Villavicencio AT**. Laser Spine Surgery. Current Techniques in the Treatment of Cranial and Spinal Disorders, Broomfield, Colorado, October 17, 2009.
29. **Villavicencio AT**. Is Motion Preservation Better Than Fusion? Current Techniques in the Treatment of Cranial and Spinal Disorders, Broomfield, Colorado, October 17, 2009.
30. **Villavicencio AT**, Burneikiene S, Babuska JM, Mason A. Aspen Spinous Process System: Preliminary Clinical Experience. XIV World Congress of Neurological Surgery (AANS), August 30 - September 4, 2009 Boston, Massachusetts.
31. Nelson EL, Burneikiene S, Mason A, **Villavicencio AT**. Preliminary Clinical Experience with the O-arm for Complex Spinal Instrumentation. XIV World Congress of Neurological Surgery (AANS), August 30 - September 4, 2009 Boston, Massachusetts.
32. **Villavicencio AT**, Burneikiene S, Mason A. Clinical Use of Osteogenic Protein (OP-1) for Instrumented Posterolateral Fusion. XIV World Congress of Neurological Surgery (AANS), August 30 - September 4, 2009 Boston, Massachusetts.
33. **Villavicencio AT**, Babuska JM, Burneikiene S, Ashton A, Busch E, Mason A. Correlation of Clinical Outcomes and Cervical Sagittal Alignment: A Prospective Randomized Clinical Study. XIV World Congress of Neurological Surgery (AANS), August 30 - September 4, 2009 Boston, Massachusetts.

34. Burneikiene S, **Villavicencio AT**, Nelson EL, Mason A. Clinical use of Osteogenic Protein(OP-1) for Instrumented Posterolateral Fusion. NASS Spring Break, April 23 – 25, 2009, Rio Grande, Puerto Rico.
35. Burneikiene S, **Villavicencio AT**, Nelson EL, Burneikiene S, Babuska JM, Ashton A, Busch E, Mason A. Correlation of Clinical Outcomes and Cervical Sagittal Alignment: A Prospective Randomized Clinical Study. NASS Spring Break, April 23 – 25, 2009, Rio Grande, Puerto Rico.
36. **Villavicencio AT**, Nelson EL, Burneikiene S, Babuska JM, Ashton A, Busch E. Prospective Randomized Clinical Study Evaluating the Correlation of Clinical Outcomes and Cervical Sagittal Alignment. 2009 AANS/CNS Section on Disorders of the Spine and Peripheral Nerves Annual Meeting, March 11 – 14, 2009, Phoenix, Arizona.
37. **Villavicencio AT**, Nelson EL, Babuska JM, Mason A, Burneikiene S. Preliminary Clinical Experience Using a Mini-Open Aspen Spinous Process System. 2009 AANS/CNS Section on Disorders of the Spine and Peripheral Nerves Annual Meeting, March 11 – 14, 2009, Phoenix, Arizona.
38. **Villavicencio, AT**, Burneikiene S, Nelson EL, Mason A. Clinical Evaluation of Osteogenic Protein (OP-1) for Instrumented Posterolateral Fusion. 2009 AANS/CNS Section on Disorders of the Spine and Peripheral Nerves Annual Meeting, March 11 – 14, 2009, Phoenix, Arizona.
39. Nelson EL, Burneikiene S, Mason A, **Villavicencio AT**. Preliminary Clinical Experience with the O-arm for Complex Spinal Instrumentation. 2009 AANS/CNS Section on Disorders of the Spine and Peripheral Nerves Annual Meeting, March 11 – 14, 2009, Phoenix, Arizona.
40. **Villavicencio AT**. Outpatient Spinal Fixation and Arthrodesis: Changing the Standard of Care. Current Techniques in the Treatment of Cranial and Spinal Disorders, Broomfield, Colorado, November 15, 2008.
41. Nelson EL, **Villavicencio AT**, Burneikiene S, Roeca C. Correction of Degenerative Adult Scoliosis in Patients Undergoing Selective Transforaminal Lumbar Interbody Fusion. NASS 23rd Annual Meeting, October 14 – 18, Toronto, Canada.
42. Nelson EL, Burneikiene S, **Villavicencio AT**. Clinical Use of Osteogenic Protein (OP-1) for Instrumented Posterolateral Fusion. 2008 CNS Annual Meeting, Orlando, Florida, September 20 – 25, 2008.
43. Nelson EL, **Villavicencio AT**, Burneikiene S. Preliminary Clinical Experience with the O-arm for Complex Spinal Instrumentation and Kyphoplasty Cases. 2008 CNS Annual Meeting, Orlando, Florida, September 20 – 25, 2008.
44. **Villavicencio AT**, Nelson EL, Burneikiene S. Pelvic Sagittal Alignment in Patients Undergoing Selective Transforaminal Lumbar Interbody Fusion for Spinal Stenosis and Scoliosis Correction. 2008 CNS Annual Meeting, Orlando, Florida, September 20 – 25, 2008.
45. **Villavicencio AT**, Burneikiene S, Nelson EL. The Incidence of Discogenic Cervical Pain in Multisport Athletes. Spineweek 2008, May 26 -31, 2008, Geneva, Switzerland.
46. Burneikiene S, **Villavicencio AT**, Roeca CM, Nelson EL. Selective Transforaminal Lumbar Interbody Fusion for Degenerative Adult Scoliosis. SpineWeek 2008, May 26 - 31, 2008, Geneva, Switzerland.

47. Burneikiene S, Nelson EL, Roeca CM, **Villavicencio AT**. Minimally Invasive vs, Open Transforaminal Lumbar Interbody Fusion. SpineWeek 2008, May 26 – 31, 2008, Geneva, Switzerland.
48. **Villavicencio AT**, Burneikiene S, McNeely L, Nelson EL. Patterns of CyberKnife Treatment Failure for Primary and Recurrent Glioblastoma Multiforme. Winner of the BrainLab National Award for Best Community Neurosurgeon Paper. AANS 76th Annual Meeting. Chicago, Illinois. April 26-May 1, 2008.
49. **Villavicencio AT**, Roeca CM, Burneikiene S, Nelson EL. Adult Scoliosis Correction with Selective Transforaminal Lumbar Interbody Fusion. AANS 76th Annual Meeting. Chicago, Illinois. April 26-May 1, 2008.
50. **Villavicencio AT**, Burneikiene S, Hernandez TD, Nelson EL. Low Back and Neck Pain in Triathletes. AANS 76th Annual Meeting. Chicago, Illinois. April 26-May 1, 2008.
51. **Villavicencio AT**, Nelson EL, Pushchak EM, Burneikiene S. The Risk Assessment of Outpatient Anterior Cervical Discectomy and Fusion with Instrumentation. AANS/CNS Section on Disorders of the Spine and Peripheral Nerves, Orlando, Florida, February 27 – March 1, 2008.
52. **Villavicencio AT**, Burneikiene S, Roeca CM, Nelson EL. Selective Transforaminal Lumbar Interbody Fusion for Degenerative Adult Scoliosis Correction. AANS/CNS Section on Disorders of the Spine and Peripheral Nerves, Orlando, Florida, February 27 – March 1, 2008.
53. **Villavicencio AT**, Burneikiene S, Arends G. Nerve Root Stimulation for Neuropathic Pain. A Preliminary Report on Outcomes. AANS/CNS Section on Disorders of the Spine and Peripheral Nerves, Orlando, Florida, February 27 – March 1, 2008.
54. **Villavicencio AT**, Burneikiene S, McNeely L, McIntyre M. CyberKnife Radiosurgery for Spine Tumors. Spinal Cord Radiation Dose and Volume Analysis. AANS/CNS Section on Disorders of the Spine and Peripheral Nerves, Orlando, Florida, February 27 – March 1, 2008.
55. **Villavicencio AT**, Burneikiene S, Roeca CM, Nelson EL. Selective Transforaminal Lumbar Interbody Fusion for Degenerative Adult Scoliosis. 21th Annual Neurosurgery in the Rockies Meeting, Beaver Creek, CO, February 23-27, 2008.
56. **Villavicencio AT**, Burneikiene S, Hernandez T. Epidemiological Study on Neck Pain in Multisport Athletes. 21th Annual Neurosurgery in the Rockies Meeting, Beaver Creek, CO, February 23-27, 2008.
57. **Villavicencio AT**, Burneikiene S, Roeca CM, Nelson EL. Selective Transforaminal Lumbar Interbody Fusion for Degenerative Adult Scoliosis. 21th Annual Neurosurgery in the Rockies Meeting, Beaver Creek, CO, February 23-27, 2008.
58. **Villavicencio AT**. Dynamic Motion Stabilization and Adjacent Level Degeneration. Current Techniques in the Treatment of Cranial and Spinal Disorders – Westminster, Colorado. Nov 10, 2007.
59. **Villavicencio AT**, Roeca CM, Burneikiene S, Thramann JJ. Degenerative Adult Scoliosis Treated with Selective Transforaminal Lumbar Interbody Fusion. CNS 2007 Annual Meeting “*Navigating Change. Integrating Discovery and Innovation into Practice*”, San Diego, California, September 15 – 20, 2007.
60. **Villavicencio AT**, Hernandez TD, Burneikiene S, Thramann JJ. Neck Pain Evaluation in Multi-sport athletes. CNS 2007 Annual Meeting “*Navigating Change. Integrating Discovery and Innovation into Practice*”, San Diego, California, September 15 – 20, 2007.

61. **Villavicencio AT**, Burneikiene S, Lim M, McNeely L, Romanelli P, Chang SD, McIntyre M, Laura Fariselli, Giovanni Broggi, Thramann JJ, Adler JR. Assessment of Optimal Treatment Parameters for CyberKnife Radiosurgery in Trigeminal Neuralgia Patients. CNS 2007 Annual Meeting “*Navigating Change. Integrating Discovery and Innovation into Practice*”, San Diego, California, September 15 – 20, 2007.
62. **Villavicencio AT**, Burneikiene S, Roeca C, Thramann JJ. Evaluation of Minimally Invasive and Open Approaches for Transforaminal Lumbar Interbody Fusion. CNS 2007 Annual Meeting “*Navigating Change. Integrating Discovery and Innovation into Practice*”, San Diego, California, September 15 – 20, 2007.
63. **Villavicencio AT**, Hernandez TD, Burneikiene S, Thramann JJ. Evaluation of Neck Pain in Triathletes. World Spine IV, Istanbul, Turkey. July 29 – August 1, 2007.
64. **Villavicencio AT**, Burneikiene S, Roeca C, Thramann JJ. Assessment of Safety and Efficacy in Minimally Invasive vs. Open Transforaminal Interbody Fusion. World Spine IV, Istanbul, Turkey. July 29 – August 1, 2007.
65. **Villavicencio AT**, Burneikiene S, Thramann JJ. Clinical Outcomes in Patients Undergoing Anterior Cervical Discectomy and Fusion with Plating. World Spine IV, Istanbul, Turkey. July 29 – August 1, 2007.
66. **Villavicencio AT**, Burneikiene S, Humphries S, McNeely L, McIntyre M, Thramann JJ. CyberKnife Radiosurgery for Spine Tumors. World Spine IV, Istanbul, Turkey. July 29 – August 1, 2007.
67. **Villavicencio AT**, Burneikiene S. Nerve Root Stimulation for Neuropathic Pain. A Preliminary Report on Outcomes. IMAST 14th International Meeting, Paradise Island, Bahamas, July 11-14, 2007.
68. **Villavicencio AT**, Roeca C, Burneikiene S, Thramann JJ. Selective Transforaminal Lumbar Interbody Fusion for Degenerative Adult Scoliosis. IMAST 14th International Meeting, Paradise Island, Bahamas, July 11-14, 2007.
69. **Villavicencio AT**, McNeely L, Burneikiene S, Humphries S, McIntyre M, Thramann JJ. Evaluation of CyberKnife Radiosurgery for Treatment of Spine Tumors. IMAST 14th International Meeting, Paradise Island, Bahamas, July 11-14, 2007.
70. Burneikiene S, **Villavicencio AT**, Lim M, McNeely L, Romanelli P, Chang SD, McIntyre M, Laura Fariselli, Giovanni Broggi, Thramann JJ, Adler JR. Clinical Evaluation of Idiopathic Trigeminal Neuralgia Patients Treated with CyberKnife Radiosurgery. 8th Bi-annual Congress of the International Stereotactic Radiosurgery Society, San Francisco, California, June 23 – 27, 2007.
71. Burneikiene S, **Villavicencio AT**, Lipani JD, Romanelli P, McNeely L, Fariselli L, McIntyre M, Pushchak EM, Broggi G, Chang SD, Adler JR, Thramann JJ. Patterns of CyberKnife Treatment Failure for Primary and Recurrent Glioblastoma Multiforme. Multicenter Experience. 8th Bi-annual Congress of the International Stereotactic Radiosurgery Society, San Francisco, California, June 23 – 27, 2007.
72. Burneikiene S, **Villavicencio AT**, Lim M, McNeely L, Romanelli P, Chang SD, McIntyre M, Laura Fariselli, Giovanni Broggi, Thramann JJ, Adler JR. Analysis of Treatment Parameters in Recurrent Trigeminal Neuralgia Patients Treated with CyberKnife Radiosurgery. 8th Bi-annual Congress of the International Stereotactic Radiosurgery Society, San Francisco, California, June 23 – 27, 2007.
73. **Villavicencio AT**, Hernandez TD, Burneikiene S, Thramann JJ. Neck Pain in Triathletes. AANS/CNS Section on Disorders of the Spine and Peripheral Nerves – 23rd

- Annual Meeting “*Neurosurgery and Spine – A Vital Synergy*”, March 7 – 10, 2007, Phoenix, Arizona.
74. **Villavicencio AT**, Burneikiene S, Roeca C, Thramann JJ. Assessment of Minimally Invasive and Open Approaches for Transforaminal Lumbar Interbody Fusion. AANS/CNS Section on Disorders of the Spine and Peripheral Nerves – 23rd Annual Meeting “*Neurosurgery and Spine – A Vital Synergy*”, March 7 – 10, 2007, Phoenix, Arizona.
 75. McNeely L, **Villavicencio AT**, Burneikiene S, Lim M, Romanelli P, Chang SD, McIntyre M, Laura Fariselli, Giovanni Broggi, Thramann JJ, Adler JR. Clinical Evaluation of Idiopathic Trigeminal Neuralgia Patients Treated with CyberKnife Radiosurgery. 20th Annual Neurosurgery in the Rockies Meeting, Vail, CO, February 24-28, 2007.
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PROFESSIONAL AFFILIATIONS

1999-present	American Association of Neurological Surgeons (AANS)
2005-present	AANS/CNS Section on Disorders of the Spine and Peripheral Nerves
2007-present	AANS/CNS Section on Tumors
2002-present	Colorado Medical Society (CMS)
2006-present	Colorado Neurosurgical Society
1997-present	Congress of Neurological Surgeons (CNS)
2006-present	North American Spine Society (NASS)
1996-2001	Massachusetts Medical Society (MMS)

PERSONAL INTERESTS

Amateur Sport Racing (Cycling, Marathons, Ultra-marathons, Triathlons), Martial Arts (Tae Kwon Do, Gracie Jiu Jitsu), SCUBA-diving, Spanish, Under 6 year-old soccer coach

Amateur Races

May 10, 1998	Clemson Triathlon (1K Swim – 20K Bike – 5K Run)
May 16, 1998	Carolina Beach Triathlon (1.5K Swim – 40K Bike – 10k Run)
May 31, 1998	Escape From Alcatraz Triathlon (1.5 mi. Swim – 18 mi. Bike – 8 mi. Run)
May 12, 2001	White Lake Half Ironman (1.2 mi. Swim – 56 mi. Bike – 13.2 mi. Run)
June 9, 2001	Camp Lejeune Semper Fi Triathlon (1.5K Swim – 40K Bike – 10k Run)
Aug. 11, 2001	Camp Pendleton Muddy Buddy (10 K)
Sept. 9, 2001	City of Los Angeles Jamba Juice Triathlon (1.5K Swim – 40K Bike – 10k Run)
Sept. 16, 2001	Malibu Nautica Triathlon (1/2 mi. Swim – 18 mi. Bike – 4 mi. Run)
Oct. 6, 2001	Death Valley to Mount Whitney Race (138 mi. Bike – 22 mi. Hike [14,497.61 ft. elevation])
Nov. 11, 2001	Long Beach Marathon (26.2 mi.)
Jan. 20, 2002	San Diego Marathon (26.2 mi.)
Feb. 9, 2002	Birmingham Marathon (26.2 mi.)
March 16, 2002	Catalina Island Marathon (26.2 mi.)
April 27, 2003	Nashville Marathon (26.2 mi.)
May 5, 2002	Wild Wild West Marathon, Lone Pine, CA (26.2 mi.)
May 18, 2002	Half Ironman, Oceanside, CA (1.2 mi. Swim – 66 mi. Bike – 13.1 mi. Run)
June 9, 2002	Ironman Utah Triathlon, Provo, UT (Terminated swim & resulting shortened duathlon – 70 mi. Bike – 13.1 mi. Run)
Aug. 25, 2002	5430 Ironman Length Triathlon, Boulder, CO (2.4 mi. Swim – 112 mi. Bike – 26.2 mi. Run)
Sep. 1, 2002	Breckenridge Crest Mountain Marathon (26.2 miles [12,500 ft. elevation])
Sep. 29, 2002	Boulder Backroads Marathon (26.2 mi.)
Oct. 19, 2002	World Championship Ironman Triathlon, Kailua-Kona, Hawaii (2.4 mi. Swim – 112 mi. Bike – 26.2 mi. Run)
March 15, 2003	Catalina Island Marathon (26.2 mi.)
April 5, 2003	Half Ironman, Oceanside, CA (Terminated swim – 70 mi. Bike – 13.1 mi. Run)
April 26, 2003	Nashville Marathon (26.2 mi.)
May 4, 2003	Wild Wild West Ultramarathon, Lone Pine, CA (50K)
May 24, 2003	Ironman Brazil, Florianopolis (2.4 mi. Swim – 112 mi. Bike – 26.2 mi. Run)

June 1, 2003	Steamboat Marathon (26.2 mi.)
June 29, 2003	Ironman Coeur d'Alene (2.4 mi. Swim – 112 mi. Bike – 26.2 mi. Run)
July 12, 2003	Mike Horgan Hill Climb bicycle race (22 miles, 4,000 ft. vertical gain)
Aug. 16, 2003	Pikes Peak Ascent (13.1 miles [7,815 ft. elevation gain to 14,110 ft])
Aug. 17, 2003	Pikes Peak Marathon (26.2 miles [7,815 ft. elevation gain to 14,110 ft])
Sept. 28, 2003	Boulder Backroads Marathon. 3 rd place, male 35-39 age group
Oct. 4, 2003	Big Sur Trail Marathon (26.2 mi.)
Oct. 12, 2003	Chicago Marathon (26.2 mi.)
March 6, 2004	Ironman New Zealand (2.4 mi. Swim – 112 mi. Bike – 26.2 mi. Run)
April 16, 2004	World's Toughest Half Ironman (1.2 mi. Swim – 66 mi. Bike – 13.1 mi. Run). 1 st place male, age 35-39
June 27, 2004	Ironman Coeur d'Alene (2.4 mi. Swim – 112 mi. Bike – 26.2 mi. Run)
July 18, 2004	5430 Half Ironman Relay (1.2mi. Swim – 56 mi. Bike – 13.1 mi. Run). 1 st place overall
July 25, 2004	Ironman Lake Placid (2.4 mi. Swim – 112 mi. Bike – 26.2 mi. Run). 7th place male, age 35-39.
Aug. 22, 2004	Pikes Peak Marathon (26.2 miles [7,815 ft. elevation gain to 14,110 ft]). 1 st place, male 35-39 age group
Sep. 5, 2004	Breckenridge Crest Mountain Marathon (26.2 miles [12,500 ft. elevation])
Sep. 26, 2004	Boulder Backroads Marathon (26.2 mi.)
Oct. 16,2004	World Championship Ironman Triathlon, Kailua-Kona, Hawaii (2.4 mi. Swim – 112 mi. Bike – 26.2 mi. Run)
April 18, 2005	Boston Marathon (26.2 mi.)
July 24, 2005	Ironman Lake Placid (2.4 mi. Swim – 112 mi. Bike – 26.2 mi. Run). 9 hrs 56 min. 4th place male, age 35-39. 18th place overall.
Aug. 7, 2005	5430 Boulder Half Ironman (1.2 mi. Swim – 56 mi. Bike – 13.1 mi. Run). 2nd place relay team.
Sep. 25, 2005	Boulder Backroads Marathon
Oct. 16, 2005	World Championship Ironman Triathlon, Kailua-Kona, Hawaii (2.4 mi. Swim – 112 mi. Bike – 26.2 mi. Run). 9 hrs 58 min
May 28, 2006	Ironman Japan (2.4 mi. Swim – 112 mi. Bike – 26.2 mi. Run). 10th place male, age 35-39.
July 23, 2006	Boulder Peak Triathlon (1.5K Swim – 40K Bike – 10k Run)
Aug. 12, 2007	5430 ½ Ironman (1.2 mi. Swim – 56 mi. Bike – 13.1 mi. Run)
Oct. 5, 2008	Longhorn Half Ironman, Austin, Texas (1.2 mi. Swim – 56 mi. Bike – 13.1 mi. Run). 1st place male, age 40-44.
Nov. 23, 2008	Ironman Arizona (2.4 mi. Swim – 112 mi. Bike – 26.2 mi. Run). 9 hrs 56 min.
Jan 25, 2009	Carlsbad Marathon (26.2 mi), 31 st overall, 5 th in age division
May 23, 2009	Ironman Lanzarote (2.4 mi. Swim – 112 mi. Bike – 26.2 mi. Run)
August 9, 2009	5430 Boulder Half Ironman (1.2 mi. Swim – 56 mi. Bike – 13.1 mi. Run).
September 20, 2009	Boulder Marathon (26.2 mi.), 10th overall, 1st place age group, male, age 40-44
March XX, 2010	Lake Havasu Triathlon (1.5K Swim – 40K Bike – 10k Run)
April 11, 2010	Superfrog Triathlon, Coronado Island (1.2 mi. Swim – 56 mi. Bike – 13.1 mi. Run). 2nd place male, age 40-49.
May 1, 2010	Ironman St George, Utah (2.4 mi. Swim – 112 mi. Bike – 26.2 mi.

June 26, 2010	Run) 12 th Place, male 40-44 Climb to Kaiser (155 mi bike race with 15,500 ft of climbing). 1 st place overall at mile 120 and missed turn going off course and was disqualified!
July 11, 2010	Boulder Peak Triathlon (1.2 mi. Swim – 56 mi. Bike – 13.1 mi. Run) 2nd place male, age 40-45.
August 8, 2010	Boulder 70.3 series ½ Ironman (1.2 mi. Swim – 56 mi. Bike – 13.1 mi. Run) 3rd place male, age 40-45
June 19, 2011	Boulder Sprint Triathlon (0.5 mi swim – 17.2 mi bike – 3.1 mi run)
July 10, 2011	Boulder Peak Triathlon (1.2 mi. Swim – 56 mi. Bike – 13.1 mi. Run)

BIOGRAPHY

Dr. Villavicencio received his medical degree from Harvard with honors in 1995 and went on to complete a neurosurgical residency at Duke University Medical Center in 2001. He then finished an orthopedic spine surgery fellowship at Cedars-Sinai Medical Center in Los Angeles in 2002 and is one of only a handful of surgeons in the country with dual neurosurgery and orthopedic spine training. He is board certified and the senior practicing partner in Boulder Neurosurgical Associates, a group of private practice neurosurgeons in Colorado. He specializes in complex spinal reconstructive surgery including scoliosis and other types of deformity as well as minimally invasive spine surgery. He treats almost all types of brain and spinal disorders, performing approximately 500 operative cases annually.

Dr. Villavicencio is the Founder and current Program Chairman for an annual regional neurosurgical symposium entitled Current Techniques in the Treatment of Cranial and Spinal Disorders. This symposium is currently in its 6th year and draws approximately 200 physicians and allied health care providers each year. Dr. Villavicencio is also the Founder and Chairman of the Board for the Justin Parker Neurological Institute, a tax-exempt 501 (c)(3) nonprofit organization with an approximate annual budget of \$400,000 whose principle purpose is to conduct clinical research and to disseminate this and other information to patients and the medical community. He is also the Founder and Director of the BNA Complex Spine Surgery Fellowship Program.

Dr. Villavicencio is Director of Research and Development for Boulder Neurosurgical Associates in addition to being the senior managing partner. He is also Director of Neurosurgery at Boulder Community and Longmont United Hospitals and Director of Surgery at the Minimally Invasive Spine Institute in Colorado. Dr. Villavicencio has presented hundreds of abstracts at national and international neurosurgical meetings and has published more than 60 peer-reviewed articles and book chapters in leading neurosurgical journals and textbooks. He is also principle investigator for several ongoing FDA IDE (investigational device exemption) prospective randomized trials.

Dr. Villavicencio's goal as a neurosurgeon is not just to stay at the forefront of neurosurgical care but to actually advance the field through the continued development and application of new and innovative surgical and non-surgical treatment options. He is one of the few neurosurgeons in the country dedicated to improving clinical outcomes and patient safety by promoting and implementing evidence-based medicine into clinical practice.

Dr. Villavicencio is a member of the American Association of Neurological Surgeons (AANS), The Congress of Neurological Surgeons (CNS), The North American Spine Society (NASS), The Colorado Neurosurgical Society (CNS), The Colorado Medical Society (CMS) and the AANS/CNS Section on Disorders of the Spine and Peripheral Nerves and the Section on Tumors. He is also a Joint Sponsorship Council Member of the AANS.

Dr. Villavicencio is the lead surgeon for a combined neurosurgery-orthopedic spine team that has traveled to Inner Mongolia on several occasions in order to perform charity surgery on children with spinal severe spinal deformities. This team includes another orthopedic surgeon, surgical assistant, neuromonitoring technician, scrub technician and anesthesiologist.

Dr. Villavicencio is a devoted husband and father of two children, including a 5 year-old boy and a three year-old girl. He also operates a small organic farm in his free time with about 20 head of cattle, 50 chickens and 15 pigs. He is an avid athlete and runs a sub 3-hour marathon. He has competed in 33 marathons, 32 triathlons and 15 full Ironman events, including the Ironman World Championships in Kona, Hawaii on several occasions. As such, he has a

particular interest in treating athletes and all other patients with the goal of utilizing less invasive techniques for a faster recovery back to peak physical condition.