

Sigita Burneikiene, MD

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Positions and Employment

Director/ Clinical Research, Justin Parker Neurological Institute; Boulder, CO
2008 - present

Director/ Clinical Research, Boulder Neurological Associates; Boulder, CO
2007 - present

Research Associate, Boulder Community Hospital; Boulder, CO
2003 – 2007

Clinical Neurophysiology, TCD, Surgical Monitoring Services; Cockeysville, MD
2002 – 2003

Clinical Neurophysiologist, Vilnius University Emergency Hospital, Vilnius, Lithuania
1990 – 1999

Clinical Neurophysiologist, Child Development Center of Vilnius University, Vilnius,
Lithuania
1996 – 1999

Psychiatrist, Vilnius University Substance Abuse Treatment Center, Vilnius,
Lithuania
1988 – 1990

Education

MD: Vilnius University, Vilnius, Lithuania
1980 - 1986

Fellowship/Clinical Neurophysiology: Kaunas University of Medicine, Kaunas,
Lithuania
1990

Fellowship/Clinical Neurophysiology: Institute of Higher Nervous Activity and
Neurophysiology of the Russian Academy of Sciences, Moscow, Russia
1991

Awards

The winner of the Best Presentation Award in the intracranial and spine section. Evaluation of CyberKnife Radiosurgery for Idiopathic Trigeminal Neuralgia. Multicenter Clinical Study. The 5th Annual CyberKnife Users' Meeting, Carlsbad, CA, January 25 – 28, 2006

The 2008th recipient of the BrainLAB Community Neurosurgery Award, AANS/CNS Section on Tumors. Survival Following Stereotactic Radiosurgery for Newly diagnosed and Recurrent Glioblastoma Multiforme. 2008 American Association of Neurological Surgeons Annual Meeting, April 26 – May 1, 2008, McCormick Place, Chicago, IL

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

The finalist, Mario Boni Award, Cervical Spine Research Society, European Section, 26th CSRS Annual Meeting, Corfu, Greece (2010)

Publications

1. Villavicencio AT, Burneikiene S, Bulsara KR, Thramann J. Intraoperative Three-dimensional Fluoro-based CT Guidance for Percutaneous Kyphoplasty. *Neurosurg Focus* 18(3):E3, 2005.
2. Villavicencio AT, Burneikiene S, Bulsara KR, Thramann JJ. Utility of Computerized Isocentric Fluoroscopy for Minimally Invasive Spinal Surgical Techniques. *J Spinal Disord Tech.* 2005; 18(4):369-375.
3. Lim M, Villavicencio AT, Burneikiene S, Chang SD, Romanelli P, McNeely L, McIntyre M, Thramann JJ, Adler JR. CyberKnife Radiosurgery for Idiopathic Trigeminal Neuralgia. *Neurosurg Focus* 18(5):E9, 2005.
4. Villavicencio AT, Burneikiene S, Nelson EL, Bulsara KR, Favors M, Thramann JJ. Safety and Efficacy of Transforaminal Lumbar Interbody Fusion using Intervertebral RhBMP-2. *J Neurosurg*, 2005 Dec;3(6):436-43.
5. Villavicencio AT, Burneikiene S, Johnson JP. Spinal Artificial Disc Replacement: Lumbar Arthroplasty (Part I). *Contemporary Neurosurgery* 27 (19), Sept 2005.
6. Villavicencio AT, Burneikiene S, Johnson JP. Spinal Artificial Disc Replacement: Lumbar Arthroplasty (Part II). *Contemporary Neurosurgery* 27 (20), Oct 2005.
7. Villavicencio AT, Perry M, Burneikiene S, Bulsara K. Principles of Nerve Injury and Regeneration. Online publication @ Medlink Neurology (<http://www.medlink.com/MedLinkContent.asp>)
8. Villavicencio AT, Burneikiene S. Elements of the Pre-Operative Workup, Case Examples. *Electrical Neuromodulation for Chronic Pain (Compendium)*. *Pain Medicine*. Supplement:S35-S46, May 2006.

9. Villavicencio AT, Burneikiene S, Bulsara KR, Thramann JJ. Perioperative Complications in Transforaminal Lumbar Interbody Fusion versus Anterior-Posterior Reconstruction for Lumbar Disc Degeneration and Instability. *J Spinal Disord Tech.* 2006; 19(2):92-97.
10. Villavicencio AT, Burneikiene S, Hernandez T, Thramann JJ. Back and Neck Pain in Triathletes. *Neurosurgical Focus* 21 (4):E7, 2006.
11. Villavicencio AT, Burneikiene S, Thramann JJ. Response to letter to the editor re: Bone Morphogenetic Protein and Fusion. *J Neurosurg*, 2007, 6 (4),378.
12. Villavicencio AT, Pushchak E, Burneikiene S, Thramann JJ. The Safety of Instrumented Outpatient Anterior Cervical Discectomy and Fusion. *The Spine Journal* (2):148-53, 2007.
13. Villavicencio AT, Burneikiene S, Johnson JP. Spinal Artificial Disc Replacement: Cervical Arthroplasty. Part I: History, Design and Types of Artificial Discs. *Contemporary Neurosurgery*, 29(12):1-5, June 15, 2007.
14. Villavicencio AT, Burneikiene S, Johnson JP. Spinal Artificial Disc Replacement: Cervical Arthroplasty. Part II: Indications, Surgical Technique and Complications. *Contemporary Neurosurgery*, 29(13):1-5, June 30, 2007.
15. Villavicencio AT, Hernandez T, Burneikiene S, Thramann JJ. Neck Pain in Multi-sport Athletes. *J Neurosurg*, 2007,7:408-413.
16. Villavicencio AT, Lim M, Burneikiene S, Romanelli P, Adler JR, McNeely L, Chang SD, Fariselli L, McIntyre M, Bower R, Broggi G, Thramann JJ. CyberKnife Radiosurgery for Trigeminal Neuralgia Treatment: A Preliminary Multicenter Experience. *Neurosurgery* 2008 Mar;62(3):647-55; discussion 647-55.
17. Villavicencio AT, Burneikiene S, Romanelli P, McNeely L, Lipani JD, Fariselli L, McIntyre M, Chang SD, Nelson EL, Broggi G, Adler JR, Thramann JJ. Survival Following Stereotactic Radiosurgery for Newly Diagnosed and Recurrent Glioblastoma Multiforme: A Multicenter Experience. *Neurosurgical Review* 2009 Oct;32(4):417-24.
18. Villavicencio AT, Burneikiene S, Romanelli P, McNeely L, Lipani JD, Fariselli L, McIntyre M, Chang SD, Nelson EL, Broggi G, Adler JR, Thramann JJ. Survival following Stereotactic Radiosurgery for Newly Diagnosed and Recurrent Glioblastoma Multiforme: A Multicenter Experience. McDermott MW (ed): *Radiosurgery*. Basel, Karger, 2010, vol 7, pp 20808–20909.
19. Villavicencio AT, Hernandez TD, Hughes BD, Healy K, Burneikiene S. Current Status of Clinical Evidence and Indications for Cervical Arthroplasty. *Contemporary Neurosurgery*. Vol. 32 (2): February 1, 2010.
20. Villavicencio AT, Burneikiene S, Roeca CM, Nelson EL, Mason A. Minimally Invasive versus Open Transforaminal Lumbar Interbody Fusion. *Surg Neurol Int* 2010,1:12 <http://www.surgicalneurologyint.com/text.asp?2010/1/1/12/63905>
21. Villavicencio AT, Babuska JM, Ashton A, Busch E, Nelson EL, Mason A, Burneikiene S. Prospective, Randomized, Double-Blind Clinical Study Evaluating the Correlation of Clinical Outcomes and Cervical Sagittal Alignment. *Neurosurgery* 68:1309-1316, 2011.

22. Carr FA, Healy KM, Villavicencio AT, Nelson EL, Mason A, Burneikiene S, Hernandez TD. Effect of Patient Pain Expectancies and Preoperative SF-36 Mental Component Summary Scores on Clinical Outcomes Following Anterior Cervical Discectomy and Fusion (*J Neurosurg – published ahead of print*).
23. Villavicencio AT, Nelson EL, Burneikiene S, Arends G. Surgical treatment Strategies for the Previously Operated Lumbar Spine. (*Contemporary Spine Surgery – accepted*)

Presentations

1. Thramann JJ, Villavicencio AT, Burneikiene S. Minimally Invasive Pedicle Fixation versus Anterior Posterior Reconstruction for Lumbar Disc Degeneration. Symposium Current Techniques in the Management of Spinal Disorders. Boulder, Colorado, May 22, 2004.
2. Villavicencio AT, Burneikiene S, Ashton A, Thramann JJ. Isocentric 3-D Fluoroscopic for Spinal Surgery. Symposium Current Techniques in the Management of Spinal Disorders. Boulder, Colorado, May 22, 2004.
3. Thramann JJ, Burneikiene S, Bush E. Understanding Back Pain. Symposium Current Techniques in the Management of Spinal Disorders. Boulder, Colorado, May 22, 2004.
4. Villavicencio AT, Burneikiene S, Thramann J. Isocentric 3-D Fluoroscopic Navigation for Spinal Surgery. The Winter Clinics, Cranial and Spinal Surgery (jointly sponsored by The Mayfield Clinic, The Cleveland Clinic and the Mayo Clinic Dept. of Neurological Surgery – Snowmass, Colorado. February 25 - March 2, 2004.
5. Villavicencio AT, Burneikiene S, Thramann J. Intraoperative Image Guidance for Complex Spinal Surgery. Rocky Mountain Neurosurgical Society 39th Annual Meeting – Squaw Valley, California. June 12 - 16, 2004.
6. Villavicencio AT, Burneikiene S, Thramann J. Transforaminal Lumbar Interbody Fusion versus Anterior Reconstruction for Lumbar Disc Degeneration and Instability. AANS/CNS Section for Spine and Peripheral Nerves – Phoenix, Arizona. March 9 – 12, 2005.
7. Burneikiene S, Villavicencio AT, Nelson EL, Bulsara KR, Favors M, Thramann JJ. Safety and Efficacy of Transforaminal Lumbar Interbody Fusion (TLIF) Using Intervertebral rhBMP-2. World Spine III, Rio de Janeiro, Brazil. July 31- August 3, 2005.
8. Burneikiene S, Villavicencio AT, Bulsara KR, Thramann JJ. Intraoperative Three-dimensional Fluoro-based CT Guidance for Percutaneous Kyphoplasty. World Spine III, Rio de Janeiro, Brazil. July 31- August 3, 2005.
9. Villavicencio AT, Burneikiene S, Bulsara KR, Thramann JJ. Transforaminal Lumbar Interbody Fusion versus Anterior-Posterior Reconstruction for Lumbar Disc Degeneration and Instability. 20th Annual NASS meeting, Philadelphia, Pennsylvania. September 27 – October 1, 2005.
10. Villavicencio AT, Burneikiene S, Bulsara KR, Thramann JJ. Intraoperative

- Three-dimensional Fluoro-based CT Guidance for Percutaneous Kyphoplasty. 55th Annual Meeting CNS, Boston, Massachusetts. October 08 – 13, 2005.
11. Lim M, Villavicencio AT, Burneikiene S, Chang SD, Romanelli P, McNeely L, Thramann JJ, Adler JR. Multicenter Clinical Evaluation of CyberKnife Radiosurgery for Idiopathic Trigeminal Neuralgia. 5th Annual Meeting CNS, Boston, Massachusetts. October 08 – 13, 2005.
 12. Villavicencio AT, Burneikiene S, Finer R, Sherrier R, Bulsara KR, Thramann JJ. Restoration of Segmental Lordosis in Anterior Cervical Discectomy and Fusion Patients. 55th Annual Meeting CNS, Boston, Massachusetts. October 08 – 13, 2005.
 13. Villavicencio AT, Burneikiene S, Bulsara KR, Thramann JJ. Posterior Pedicle Fixation versus Anterior-Posterior Reconstruction for Lumbar Disc Degeneration and Instability. 55th Annual Meeting CNS, Boston, Massachusetts. October 08 – 13, 2005.
 14. Villavicencio AT, Lim M, Burneikiene S, Chang SD, Romanelli P, McNeely L, McIntyre M, Thramann JJ, Adler JR. Evaluation of CyberKnife Radiosurgery for Idiopathic Trigeminal Neuralgia. Multicenter Clinical Study. The 5th Annual CyberKnife Users' Meeting, Carlsbad, CA, January 25 – 28, 2006.
 15. Villavicencio AT, Burneikiene S, Bulsara KR, Thramann JJ. Acute Intracranial Hemorrhage after CyberKnife Radiosurgery Treatment of Metastatic Melanoma. The 5th Annual CyberKnife Users' Meeting, Carlsbad, CA, January 25 – 28, 2006.
 16. Villavicencio AT, Burneikiene S, McNeely L, Pushchak EM, McIntyre M, Thramann JJ. Patterns of CyberKnife Treatment Failure for Primary and Recurrent Glioblastoma Multiforme. 5th Annual CyberKnife Users' Meeting, Carlsbad, CA, January 25 – 28, 2006.
 17. Villavicencio AT, Burneikiene S, Pushchak E, Thramann JJ. Clinical Outcome in Patients Undergoing Anterior Cervical Discectomy and Fusion Using Anterior Plating System. AANS/CNS Section on Disorders of the Spine and Peripheral Nerves 22nd Annual Meeting, Orlando, Florida. March 15 - 18, 2006.
 18. Villavicencio AT, Burneikiene S, Nelson EL, Bulsara KR, Thramann JJ. Intervertebral RhBMP-2 for Transforaminal Lumbar Interbody Fusion. AANS/CNS Section on Disorders of the Spine and Peripheral Nerves 22nd Annual Meeting, Orlando, Florida. March 15 - 18, 2006.
 19. Villavicencio AT, Burneikiene S, Bulsara KR, Thramann JJ. Three-dimensional Fluoro-based CT Guidance for Complex Spinal Surgery. AANS/CNS Section on Disorders of the Spine and Peripheral Nerves 22nd Annual Meeting, Orlando, Florida. March 15 - 18, 2006.
 20. Burneikiene S, Villavicencio AT, Bulsara KR, Thramann JJ. Potential for Radiation Dose Reduction by Performing Percutaneous Kyphoplasty under Intraoperative Fluoro-based CT Guidance AANS/CNS Section on Disorders of the Spine and Peripheral Nerves 22nd Annual Meeting, Orlando, Florida. March 15 - 18, 2006.
 21. Villavicencio AT, Burneikiene S. Maverick Artificial Disc Removal Due to Metal

- Allergy. AANS/CNS Section on Disorders of the Spine and Peripheral Nerves 22nd Annual Meeting, Orlando, Florida. March 15 - 18, 2006.
22. Villavicencio AT, Burneikiene S, Pushchak E, Thramann JJ. The Safety of Outpatient Anterior Cervical Discectomy and Fusion. AANS 74th Annual Meeting "Meeting the Challenges of Neurosurgery: Expanding Resources for a Growing Population", San Francisco, California. April 22 - 27, 2006.
 23. Villavicencio AT, Burneikiene S, Bulsara KR, Thramann JJ. Perioperative Complications in Transforaminal Lumbar Interbody Fusion versus Anterior - Posterior Reconstruction for Lumbar Disc Degeneration and Instability. AANS 74th Annual Meeting "Meeting the Challenges of Neurosurgery: Expanding Resources for a Growing Population", San Francisco, California. April 22 - 27, 2006.
 24. Villavicencio AT, Lim M, Burneikiene S, Chang SD, Romanelli P, McNeely L, Thramann JJ, Adler JR. CyberKnife Radiosurgery for Trigeminal Neuralgia Treatment. AANS 74th Annual Meeting "Meeting the Challenges of Neurosurgery: Expanding Resources for a Growing Population", San Francisco, California. April 22 - 27, 2006.
 25. Burneikiene S, Villavicencio AT, Bulsara KR, Thramann JJ. Radiation Dose Reduction Using Isocentric 3-D Fluoroscopic Navigation for Percutaneous Kyphoplasty. North American Spine Society 21st Annual Meeting, Seattle, Washington, September 26 - 30, 2006.
 26. Villavicencio AT, Burneikiene S, Roeca C, McLean J, Thramann JJ. Percutaneous versus Open Transforaminal Lumbar Interbody Fusion. Safety and Efficacy. North American Spine Society 21st Annual Meeting, Seattle, Washington, September 26-30, 2006.
 27. Villavicencio AT, Burneikiene S, Lipani JD, Romanelli P, McNeely L, Fariselli L, McIntyre M, Pushchak EM, Broggi G, Adler JR, Thramann JJ. Survival Comparison of Newly Diagnosed and Recurrent Glioblastoma Multiforme Treated with CyberKnife Radiosurgery. CNS 2006 Annual Meeting, Chicago, IL, October 7 - 12, 2006.
 28. Villavicencio AT, Burneikiene S, Lim M, McNeely L, Romanelli P, Chang SD, McIntyre M, Laura Fariselli, Giovanni Broggi, Thramann JJ, Adler JR. CyberKnife Radiosurgery for Atypical Trigeminal Neuralgia Treatment. CNS 2006 Annual Meeting, Chicago, IL, October 7 - 12, 2006.
 29. Villavicencio AT, Lim M, Burneikiene S, McNeely L, Romanelli P, Chang SD, McIntyre M, Laura Fariselli, Giovanni Broggi, Adler JR, Thramann JJ. Recurrent Trigeminal Neuralgia in Patients Treated with CyberKnife Radiosurgery. CNS 2006 Annual Meeting, Chicago, IL, October 7 - 12, 2006.
 30. Lim M, Villavicencio AT, Burneikiene S, McNeely L, Romanelli P, Chang SD, McIntyre M, Fariselli L, Broggi G, Thramann JJ, Adler J. A Multicenter Experience of Idiopathic Trigeminal Neuralgia Patients Treated with CyberKnife Radiosurgery. CNS 2006 Annual Meeting, Chicago, IL, October 7 - 12, 2006.
 31. McLean JS, Villavicencio AT, Burneikiene S, Thramann JJ. Prospective Evaluation of Clinical Outcomes in Patients Undergoing Anterior Cervical

- Discectomy and Fusion with Plating. CNS 2006 Annual Meeting, Chicago, IL, October 7 – 12, 2006.
32. Villavicencio AT, Burneikiene S, 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. 6th Annual CyberKnife Users' Meeting, Palm Springs, California, January 24-28, 2007.
 33. Villavicencio AT, Burneikiene S, 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. 6th Annual CyberKnife Users' Meeting, Palm Springs, California, January 24-28, 2007.
 34. Villavicencio AT, Burneikiene S, 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. 6th Annual CyberKnife Users' Meeting, Palm Springs, California, January 24-28, 2007.
 35. Villavicencio AT, Burneikiene S, Lim M, McNeely L, Romanelli P, Chang SD, McIntyre M, Laura Fariselli, Giovanni Broggi, Thramann JJ, Adler JR. Atypical Trigeminal Neuralgia Pain Treated with CyberKnife Radiosurgery. 6th Annual CyberKnife Users' Meeting, Palm Springs, California, January 24-28, 2007.
 36. Thramann JJ, Burneikiene S, Humphries S, McNeely L, McIntyre M, Villavicencio AT. CyberKnife Radiosurgery for Spine Tumors. Radiation Dose and Volume Analysis. 6th Annual CyberKnife Users' Meeting, Palm Springs, California, January 24-28, 2007.
 37. 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.
 38. 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.
 39. 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.
 40. 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.

41. 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.
42. 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.
43. 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.
44. 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.
45. 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.
46. Villavicencio AT, Hernandez TD, Burneikiene S, Thramann JJ. Evaluation of Neck Pain in Triathletes. World Spine IV, Istanbul, Turkey. July 29 – August 1, 2007.
47. 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.
48. 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.
49. 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.
50. 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.
51. 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.
52. 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.
53. 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.
 54. Villavicencio AT. Dynamic Motion Stabilization and Adjacent Level Degeneration. Current Techniques in the Treatment of Cranial and Spinal Disorders – Westminster, Colorado. Nov 10, 2007.
 55. Thramann JJ. Spinal Applications in Regenerative Medicine. Current Techniques in the Treatment of Cranial and Spinal Disorders – Westminster, Colorado. Nov 10, 2007.
 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, 2007.
 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, 2007.
 58. 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.
 59. 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.
 60. 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.
 61. 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.
 62. 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.
 63. 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.

64. 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.
65. Villavicencio AT, Burneikiene S, Nelson EL. The Incidence of Discogenic Cervical Pain in Multisport Athletes. Spine Week 2008, May 26 -31, 2008, Geneva, Switzerland.
66. Burneikiene S, Villavicencio AT, Roeca CM, Nelson EL. Selective Transforaminal Lumbar Interbody Fusion for Degenerative Adult Scoliosis. Spine Week 2008, May 26 -31, 2008, Geneva, Switzerland.
67. Burneikiene S, Nelson EL, Roeca CM, Villavicencio AT. Minimally Invasive vs. Open Transforaminal Lumbar Interbody Fusion. Spine Week 2008, May 26 – 31, 2008, Geneva, Switzerland.
68. 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.
69. 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.
70. 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.
71. 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.
72. Mason A, Nelson EL, Burneikiene S, Babuska JM, Ashton A, Busch E, Villavicencio AT. Prospective Randomized Clinical Study Evaluating the Correlation of Clinical Outcomes and Cervical Sagittal Alignment. 22nd Annual Neurosurgery in the Rockies Meeting, February 21 – 25, 2009, Beaver Creek, CO.
73. 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.
74. 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.
75. 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.

76. 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.
77. 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.
78. 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
79. Villavicencio AT, Burneikiene S, Babuska JM, Mason A, Nelson EL. Aspen Spinous Process System: Preliminary Clinical Experience. XIV World Congress of Neurological Surgery (AANS), August 30 - September 4, 2009 Boston, Massachusetts.
80. 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.
81. Villavicencio AT, Burneikiene S, Mason A, Nelson EL. 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.
82. Villavicencio AT, Babuska JM, Burneikiene S, Ashton A, Busch E, Mason A, Nelson EL. 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.
83. Villavicencio AT, Burneikiene S, Babuska JM, Ashton A, Busch E, Nelson EL. 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.
84. Villavicencio AT, Nelson EL, 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.
85. Villavicencio AT, Burneikiene S, Nelson EL, 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.
86. 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.

87. Villavicencio AT, Nelson L, Mason 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.
88. 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.
89. 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.
90. Burneikiene S, Villavicencio AT, Nelson L, Mason A. Outpatient Instrumented Lumbar Interbody Fusion. Preliminary Results on Safety and Efficacy. 7th Annual Mazama Spine Summit, Winthrop, WA, March 3-5, 2010.
91. 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.
92. 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.
93. 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.
94. Villavicencio AT. Neurosurgery in the 21st Century. 24th HAPS Conference, Denver, CO, May 29 – June 3, 2010.
95. Nelson L. Extreme Lateral Approaches to the Spine. 7th Annual Symposium Current Techniques in the Treatment of Cranial and Spinal Disorders. Broomfield, Colorado, September 11, 2010
96. Mason A. Advances in Cerebrovascular Neurosurgery. 7th Annual Symposium Current Techniques in the Treatment of Cranial and Spinal Disorders. Broomfield, Colorado, September 11, 2010.
97. Rajpal S. Pain Following Spine Surgery: A multimodality Approach. 7th Annual Symposium Current Techniques in the Treatment of Cranial and Spinal Disorders. Broomfield, Colorado, September 11, 2010.
98. 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.
99. 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.

100. Villavicencio AT, Nelson EL, Mason A, Babuska J, Burneikiene S. Efficacy of CO₂ Laser-Assisted Lumbar Fusions: Preliminary Clinical Results. 2010 CNS Annual Meeting, San Francisco, CA October 16 – 21, 2010.
101. 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. 2010 CNS Annual Meeting, San Francisco, CA October 16 – 21, 2010.
102. Villavicencio AT, Nelson EL, Mason A, Babuska J, Burneikiene S. The Safety of Instrumented Lumbar Interbody Fusions Performed as an Outpatient Procedure. 2010 CNS Annual Meeting, San Francisco, CA October 16 – 21, 2010.
103. Villavicencio AT, Nelson EL, Mason M, Babuska J, Carr F, Burneikiene S. Selective Transforaminal Lumbar Interbody Fusion for Degenerative Adult Scoliosis Correction. 2010 CNS Annual Meeting, San Francisco, CA October 16 – 21, 2010.
104. Villavicencio AT, Nelson EL, Mason A, Rajpal S, Carr F, Burneikiene S. The Safety and Efficacy of Transforaminal Lumbar Interbody Fusion for Deformity Correction in Degenerative Scoliosis with Spinal Stenosis. 27th Annual Meeting, AANS/CNS Section on Disorders of the Spine and Peripheral Nerves, Phoenix, AZ, March 9 – 12, 2011.
105. Villavicencio AT, Mason A, Nelson EL, Rajpal S, Carr F, Weeks B, Burneikiene S. A Systematic Review of Accuracy and Comparison of Intraoperative Biplanar and Volumetric Image Guidance Systems. 27th Annual Meeting, AANS/CNS Section on Disorders of the Spine and Peripheral Nerves, Phoenix, AZ, March 9 – 12, 2011.
106. Villavicencio AT, Nelson EL, Mason A, Babuska J, Carr F, Rajpal S, Burneikiene S. CO₂ Laser-Assisted Lumbar Fusions: Safety, Clinical Outcomes and Technical Considerations. 27th Annual Meeting, AANS/CNS Section on Disorders of the Spine and Peripheral Nerves, Phoenix, AZ, March 9 – 12, 2011.
107. 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. 27th Annual Meeting, AANS/CNS Section on Disorders of the Spine and Peripheral Nerves, Phoenix, AZ, March 9 – 12, 2011.
108. 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.
109. 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.

110. 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.
111. 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.

Research Experience

1. Clinical Outcome Correlation with Serum, CSF, Brain Extracellular Magnesium and other Biochemical Markers Following Traumatic Brain Injury and Intracranial Hemorrhage. Sponsor s- Colorado Department of Human Services, Nova Biomedical, Microdialysis, Justin Parker Neurosurgical Research Foundation, Boulder Neurosurgical Associates. 2005 – 2007.
2. Restoration of Segmental Lordosis and Clinical Outcome in Anterior Cervical Fusion Patients. Sponsor – Justin Parker Neurosurgical Research Foundation, Boulder Neurosurgical Associates, 2004 – 2009.
3. Prospective Randomized Clinical Study Evaluating the Use of Perioperative Antibiotics in Neurosurgery. Sponsor – Justin Parker Neurosurgical Research Foundation, Boulder Neurosurgical Associates, 2004 – 2006.
4. Prospective, Randomized Controlled Clinical Investigation of MAVERICK™ Total Disc Replacement in Patients with Degenerative Disc Disease. Sponsor – Medtronic Sofamor Danek. 2004 – 2011.
5. Normal Pressure Hydrocephalus (NPH) Registry. Managed by AANS, Neuro-Knowledge and Outcome; Sponsored by Codman and Shurtleff, Inc. 2005 - 2008.
6. Pivotal IDE Study of the Wallis Mechanical Normalization System. Sponsor – Spinal Concepts, Inc., 2005 - 2011.
7. 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 Patients. Sponsor – Kyphon, Inc., 2006 – 2008.
8. 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, 2007 – present.
9. Clinical Trial Comparing the Advent Cervical Disc to Anterior Cervical Discectomy and Fusion (ACDF) for the Treatment of One Level Degenerative Disc Disease, Sponsor – Blackstone Medical, 2008 – present.
10. 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 – 2009.

11. Clinical Evaluation of the O-ARM Imaging System. Prospective Clinical Study. Sponsor – Medtronic, 2009 – present.
12. Evaluation of safety and Effectiveness of the OsseoFix™ Spinal Fracture Reduction System in Treating Spinal Compression Fracture. Sponsor – Alphatec Spine, 2009 – present.
13. 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 – present.
14. 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., 2011 – 2011.
15. Prospective Randomized Clinical Trial Comparing PEEK and Allograft Spacers in Patients Undergoing Spinal Intervertebral Fusion Surgeries. Sponsor – Justin Parker Neurological Institute; 2011 – present.