

Jeffrey J. Larson, M.D., M.S.

Date of Birth

April 4, 1963, Detroit, Michigan

Undergraduate Education

Brother Rice High School, Birmingham, Michigan, Graduated June 1981

University of Michigan, Ann Arbor, Michigan, B.S. Microbiology, 1985

Graduate Education

Wayne State University, Detroit, Michigan, **M.S. Molecular Genetics**, 1987

University of Cincinnati College of Medicine, **M.D.**, 1991

Postgraduate Education

1991-1992 Surgical Internship

University of Cincinnati College of Medicine Department of Surgery

1992-1996 Neurosurgery Residency

University of Cincinnati College of Medicine Department of Neurosurgery and The Mayfield Clinic and Spine Institute

1996-1997 Chief Resident

University of Cincinnati College of Medicine

Department of Neurosurgery and The Mayfield Clinic and Spine Institute

Professional Certifications and Licensures

- Diplomat, National Board of Medical Examiners 1992
- State of Washington Board of Medical Examiners, 1997
- Diplomat, American Board of Neurological Surgery, 2001
- Idaho State Board of Medicine, 2002
- Maintenance of Certification (MOC), Neurological Surgery, 2011
- Utah State Board of Medicine 2013
- Maintenance of Certification, Neurological Surgery, 2014

Hospital Appointments

- Northwest Specialty Hospital, Post Falls, Idaho
- Pleasant View Surgery Center, Post Falls, Idaho
- Valley Medical Center, Spokane, Washington

Teaching Appointments

- Stryker Spine
- DePuy Synthes Spine

Professional Societies

- American Association of Neurological Surgeons (AANS)
- Stroke Council of the American Heart Association

- Cerebrovascular Section of the AANS
- North American Spine Society (NASS)
- International Society for the Advancement of Spine Surgery (ISASS)
- Spokane County Medical Society
- Idaho Medical Association

Athletic Affiliations

- USA Rowing, Four Man Skulls, 1989
- Neurosurgical Consultant, Marcis Racing, NASCAR Winston Cup #71 Car
- Neurosurgical Consultant, Spokane Chiefs Hockey Club, Canadian Junior Hockey League
- ImPACT Test Center
- USA Cycling
- USA Hockey
- USA Rowing

Grants

- American Cancer Society Research Fellowship: 1993-94.
- American Cancer Society Research Fellowship: 1994-95.

Intellectual Properties

***Guided Retractor and Methods of Use* - *Purchased by Synthes Spine 2006**

United States Patent No.: US 7,014,608 B2

United States Patent No.: US 7,144,368 B2

United States Patent No.: US 2004/0116777 A1

***Monopedicular Targeting Systems and Methods for Posterior Spinal Surgery* - *Purchased by Stryker Spine 2017**

US Patent Application No.: 62/240,231

***Spine Targeting Device and Methods of Use* - *Purchased by Stryker Spine 2017**

PCT/US16/36976

U.S. Provisional Application No. 62/174,342

U.S. Provisional Application No. 62/240,231

U.S. Provisional Application No. 62/253,280

Uncinate Joint Stabilization Devices and Methods of Use

PCT/US62/121,260

Manuscripts

1: Larson JJ, Nicholson A, Siegel A: Field inversion of large DNA fragments using an inexpensive unit. *Biotechniques* 5(3):288, 1987

2: Michalewicz J, Hsu E, Larson JJ, Nicholson A: Physical map and genetic early region of the T7-related coliphage BA14. *Gene* 98(1):89-93, 1991

- 3: Larson JJ, Tew JM Jr, Wiot J, et al: Association of meningiomas with dural "tails": Surgical significance. *Acta Neurochir* 114:59-63, 1991
- 4: Shinoura N, Heffelfinger SC, Miller M, Shamraj OI, C.Miura NH, Larson JJ, De Tribolet N, Warnick RE, Tew JM Jr, Menon AG: RNA expression of complement regulatory proteins in human brain tumors. *Cancer Letters* 86:143-149, 1994
- 5: Larson JJ, Tew JM Jr., Tomsick TA, van Loveren HR: Treatment of aneurysms of the internal carotid artery by intravascular balloon occlusion: Long-term follow-up of 58 cases. *Neurosurgery* 36:1-8, 1995
- 6: Larson JJ, van Loveren HR, Balco MG, Tew JM Jr. Evidence of meningioma invasion into cranial nerves; clinical implications for skull base meningiomas. *J Neurosurg* 83:596-599, 1995
- 7: Larson JJ, Tew JM Jr, Simon M, Menon AG. Evidence for clonal spread in the development of multiple meningiomas. *J Neurosurg* 83:705-709, 1995
- 8: Simon M, von Deimling A, Larson JJ, Wellenreuther R, Kaskel P, Waha A, Warnick RE, Tew JM Jr., Menon AG. Allelic losses on chromosomes 14, 10, and 1, in atypical and malignant meningiomas: A genetic model of meningioma progression. *Cancer Research* 55:4696-4701, 1995
- 9: Lewis AI, Larson JJ, Crone KR. Endoscopic treatment of complex hydrocephalus. *Techniques in Neurosurgery* 1(3):168-175, 1995
- 10: Shinoura N, Paradies NE, Warnick RE, Chen H, Larson JJ, Tew JM Jr, Simon M, Lynch RA, Kanai Y, Hirohashi S, Hemperly JJ, Menon AG, Brackenbury R. Expression of N-cadherin and a-catenin in astrocytomas and glioblastomas. *British Journal of Cancer* 72:627-633, 1995
- 11: Shinoura N, Chen L, Wani MA, Kim YG, Larson JJ, Warnick RE, Simon M, Menon AG, Bi WL, Stambrook PJ: Protein and mRNA expression of connexin 43 in astrocytomas. Implications in brain tumor gene therapy. *J Neurosurg* 83:839-846, 1996
- 12: Tomsick TA, van Loveren HR, Tew JM, Jr., Larson JJ, Earnst R, Khoury J. Delayed Complications of Balloon Occlusion of the Internal Carotid Artery for Unclippable Aneurysm. *Journal of Neurovascular Disease* 2:64-67, 1997
- 13: Larson JJ, Ball WS, Bove KE, Crone KR, Tew JM, Jr. Formation of intracerebral cavernous malformations after brain radiation treatment for CNS neoplasia in children. *J Neurosurg* 88:51-56, 1998

Abstracts

- 14: Larson JJ, van Loveren HR, Balco MG, Tew JM Jr. Evidence of meningioma invasion into cranial nerves; clinical implications for skull base meningiomas. *J Neurosurg* 82:360A, 1995
- 15: Larson JJ, de Tribolet N, Tew JM Jr, van Loveren HR, Warnick RE, Balco MG, Menon AG. Evidence for the Clonal Origin of Primary and

Recurrent Meningiomas. *J Neurosurg* 82:346A, 1995

16: Larson JJ, van Loveren HR, Tew JM Jr. Evidence of meningioma invasion into cranial nerves; clinical implications for skull base meningiomas. *Skull Base Surgery* 5(1): 12-13, 1995

17: Larson JJ, Simon M, van Loveren HR, Tew JM Jr., Menon AG. Molecular genetic analysis of dural tail meningiomas: surgical significance. *Skull Base Surgery* 5(1):8, 1995

18: Larson JJ, Tew JM Jr., Warnick RE, Menon AG. Evidence for Clonal Spread in the Development of Multiple Meningiomas. *Cincinnati BTRC Newsletter* 1(9):5, 1995

19: Larson JJ, Tew JM Jr., Tomsick TA, van Loveren HR. Treatment of Aneurysms of the Internal Carotid Artery by Intravascular Balloon Occlusion: Long-Term Follow-up of 58 Patients. *Yearbook of Neuroradiology*, 1995

20: Larson JJ, Crone KR. Formation of Intracerebral Cavernous Malformations After Brain Radiation Treatment for CNS Neoplasia in Children. *J Neurosurg* 84:346-347A, 1996

21: Larson JJ, Berninger JP, Miller MN, Koch BL, Crone KR. Posterior Fossa Decompression without Dural Opening Restores Cerebrospinal Fluid Flow in Patients With Chiari I Malformation Without Syrxinx. *J Neurosurg* 84:356A, 1996

22: Larson JJ, Tew JM, Jr., van Loveren HR, Tomisick TA. Delayed Complications after Permanent Balloon Occlusion of the Internal Carotid Artery (ICA) for Treatment of Aneurysms of the ICA. *J Neurosurg* 86:364A, 1997

Reviews

23: Larson JJ, Tew JM Jr.; Acute subdural hematoma caused by a ruptured giant intracavernous aneurysm: case report. *Neurosurgery* 38:392, 1996.

24: Larson JJ, van Loveren HR, Balco MG, Tew JM Jr.; Cavernous Sinus of Lateral Sellar Compartment. *J Neurosurg* 85:190-191, 1996

25: Larson JJ, Tew JM Jr.; Traumatic Indirect Carotid-Cavernous Fistula: Report of Two Cases. *Neurosurgery* 39:1238, 1996

Chapters

26: Larson JJ; *Neurosurgical Emergencies*. Mont Reid Surgical Handbook, Fourth Edition. Mosby. 264-283, 1997

27: Larson JJ, Warnick RE, Tew JM Jr.; Use of Operating Arm System in Skull Base Surgery. *AANS Neurosurgical Operative Atlas*, 8:79-85, 1999

28: Larson JJ, Crone KR. Posterior fossa decompression without dural opening restores cerebrospinal fluid flow in patients with Chiari I

malformation without syrinx. AANS Neurosurgical Operative Atlas

29: Larson JJ, Tew JM Jr.; Intraventricular Meningiomas. Operative Neurosurgery.

Other

30: Larson JJ; Tips to help you avoid downcoded claims. Medical Office Compliance Alert, 1(9):65-66, 2001

Meetings, Presentations, and Scientific Exhibits

1. Derivation of a restriction map for phage BA14. Wayne State University Masters of Science Thesis Defense. Detroit, Michigan. May 12, 1987.
2. Combining International Sports Competition with Medical School. St. Mary's Preparatory School. Orchard Lake, Michigan. March 14, 1988.
3. Association of meningiomas with dural "tails": surgical significance. American Association of Neurological Surgeons. San Diego, California. Poster: 1992.
4. Treatment of aneurysms of the internal carotid artery by intravascular balloon occlusion: report of 58 cases. Southern Neurosurgical Society Meeting. Williamsburg, Virginia. Platform presentation: April 2, 1993.
5. The Acute Management of Head Injuries in Athletes. Sideline Survival, Sports Medicine Meeting. Cincinnati, Ohio. August 19, 1994.
6. Research During Neurosurgical Residency. University of Cincinnati M.DPh. D. Program. Cincinnati, Ohio. August. 1994.
7. Concussions and Secondary Impact Syndrome in Athletes. Ohio High School Athletic Association. Cincinnati, Ohio. November 7, 1995.
8. Management of meningiomas involving the cavernous sinus. North American Skull Base Society Meeting. Naples, Florida. Platform presentation with MG O'Sullivan: February. 1995.
9. Molecular genetic analysis of dural tail meningiomas: surgical significance. North American Skull Base Society Meeting. Naples, Florida. Platform presentation: February. 1995.
10. Evidence of meningioma invasion into cranial nerves: clinical implications for cavernous sinus meningiomas. North American Skull Base Society Meeting. Naples, Florida. Platform presentation: February. 1995.
11. Investigating the cell cycle regulator p15/MTS2 as a potential tumor suppressor gene in human CNS tumors. American Association of Cancer Research. Toronto, Canada. Platform presentation with M. Simon: March 20, 1995.
12. Evidence for the clonal origin of primary and recurrent meningiomas and their malignant progression. American Association of Neurological

Surgeons Annual Meeting, Orlando, Florida. Platform presentation: April 24, 1995.

13. Evidence of meningioma invasion into cranial nerves; clinical implications for skull base meningiomas. American Association of Neurological Surgeons Annual Meeting, Orlando, Florida. Platform presentation: April 26, 1995.

14. Evidence for clonal spread in the development of multiple meningiomas. 11th International Meeting on Brain Tumor Research and Therapy, Napa, California. October 31, 1995.

15. Concussion and Secondary Impact syndrome in Athletes. Ohio Highschool Athletic Association, Cincinnati, Ohio. November 7, 1995.

16. Establishing Guidelines for the Evaluation and Management of Head Injuries in Hockey Players; Returning a Player to Competition. Annual Meeting of the International Hockey League Medical Association, Houston, Texas. January 13, 1996.

17. Head and Neck Injuries in the Athlete. Southern Ohio Firefighter and EMS School, Wilmington, Ohio. March 16, 1996.

18. Formation of Intracerebral Cavernous Malformations After Brain Radiation Treatment for CNS Neoplasia in Children. The Augustus McCravey Resident's Clinical Science Paper Award at the Southern Neurosurgical Society Meeting, Miami, Florida. Platform presentation: March 29, 1996.

19. Posterior Fossa Decompression without Dural Opening Restores Cerebrospinal Fluid Flow in Patients With Chiari I Malformation Without Syrx. Southern Neurosurgical Society Meeting, Miami, Florida. Platform presentation: March 29, 1996.

20. Neuroendoscopy: Indications, Techniques, and Instrumentation. Practical Course. Association of Neurological Surgeons Annual Meeting, Minneapolis, Minnesota. April 27, 1996.

21. Defining the Limits of Resectability of Skull Base Meningiomas. Breakfast Seminar. Association of Neurological Surgeons Annual Meeting, Minneapolis, Minnesota. April 29, 1996.

22. Formation of Intracerebral Cavernous Malformations After Brain Radiation Treatment for CNS Neoplasia in Children. American Association of Neurological Surgeons Annual Meeting, Minneapolis, Minnesota. Plenary Session: April 30, 1996.

23. Posterior Fossa Decompression without Dural Opening Restores Cerebrospinal Fluid Flow in Patients With Chiari I Malformation Without Syrx. American Association of Neurological Surgeons Annual Meeting, Minneapolis, Minnesota. Platform presentation: April 30, 1996.

24. Cost-effective Analysis of Treatment Protocols for high School Sportsrelated Spinal Cord Injury without Radiographic Abnormality. Sports Related Concussion and Nervous System Injuries. Orlando, Florida. Platform presentation. February 9, 1997.

25. Late Complications of Endovascular Balloon Occlusion Treatment for Unclippable Internal Carotid Artery Aneurysms. American Association of Neurological Surgeons Annual Meeting. Plenary Session: April 15, 1997.
26. Guidelines for the Treatment of Cerebral Concussions in Athletes. Mayfield Clinic and The Cleveland Clinic Winter Symposium. Snowmass, Colorado. February, 1998
27. Contemporary Management of Cerebral Aneurysms. Washington Association of Surgical Technologists annual Spring Symposium. April, 1998.
28. Contemporary Management of Cerebrovascular Diseases. Spokane Surgical Society Annual Meeting. April. 1998.
29. Contemporary Management of Lower Back Pain. The Big Mountain Medical Review Meeting. January. 1999
30. Head Protection in Athletics. American College of Sports Medicine, 46th Annual Meeting. June. 1999
31. Multilevel Lumbar Interbody Fusions, Indications. Sulzer-Spinetech Annual Meeting. July. 1999
32. Closed Head Injury, Neurosurgical Treatment. Trauma Care in the New Millennium, Spokane, Washington. February. 2000.
33. Disorders of the Spine Meeting, Moderator, Whistler, British Columbia, January, 2008
34. American Association of Neurosurgery Annual Meeting, San Diego, California, May, 2009
35. Minimally Invasive Spine Surgery Lab, Percutaneous Pedicle Screws, Coeur d'Alene, Idaho, June 1, 2009
36. Schweitzer Mountain Ski Patrol Mountain Rescue Course for Head Injury and Spine Injury, Schweitzer Mountain, November 1, 2009
37. Minimally Invasive Spine Surgery Lateral Approach, Robert Watkins, M.D. training session, Marina Spine Center, California, June 9, 2009
38. SANS Lifelong Learning General Examination, November 19, 2009
39. Schweitzer Mountain Ski Safety Week, ImPACT Testing, January 17, 2010
40. Posterior Minimally Invasive Interspinous Process Technologies, Webinar, May 1, 2010
41. C1 Lateral Mass Screw Placement, Webinar, November 19, 2010
42. SANS Competencies, November 26, 2010

43. Anterior Cervical Discectomy and Fusion (ACDF): Current Grafting Options, Webinar, November 27, 2010
44. Minimally Invasive Spine Surgery: Lumbar Decompressive Techniques, Webinar, November 28, 2010
45. Cervical Spine Research Society, Annual Meeting, Charlotte, North Carolina, December, 2010
46. Occipitocervical Fusion Techniques, Webinar, December 3, 2010
47. Cervical Disc Arthroplasty, Quality-Adjusted Life Year Analysis, Presenter, Kootenai Medical Center, March 1, 2011
48. Cervical Myelopathy: Anterior vs Posterior Approach, CNS Webinar, March 1, 2011
49. ImPACT testing for concussion, Life Chiropractic College West Meeting, Presenter, March 29, 2012
50. Minimally Invasive Surgery (MIS), Spine, Life Chiropractic College West Meeting, Presenter, March 29, 2012
51. ProDisc Lumbar, FDA and surgical course, May 1 - 2, 2012
52. West Coast Complex MIS Peer Meeting, June 1, 2012
53. MIS Techniques for Complex Spinal Pathologies, January 11-12, 2013
54. Current Concepts and Techniques: Spinal Tumors, February 8, 2013
55. AANS Annual Meeting. New Orleans, LA. April 2013
56. Concepts in Minimally Invasive Spine Surgery. Portland, OR. Course Instructor. Sept. 6-7, 2013
57. NASS Annual Meeting. New Orleans, LA. October 2013
58. Neurologic Injury and Management. National Ski Patrol Outdoor Emergency Care Fundamental Competencies Program. Presenter. October 26, 2014.
59. NASS Annual Meeting. San Francisco, CA. November 2014
60. Cervical Disc Arthroplasty vs. ACDF. A Return to Work Comparison for Workers Compensation Patients in Idaho. Depuy Synthes Spine Lunch and Learn Lecture Series. Raynham, MA, December 5, 2014.
61. SANS Competencies, December, 2014
62. Less Invasive Solutions for the Aging Spine. Course instructor MIS Laminectomy, Discectomy, and Lateral Lumbar Fusion. Denver, Co. February 20-21, 2015.
63. 15th Annual Meeting of the International Society for the Advancement of Spine Surgery (ISASS). Abstract and Oral Poster presentation. Return to Work Comparison for Workers Compensation Patients Treated with Cervical Disc Arthroplasty versus Anterior Discectomy and Fusion. San Diego, California. April 15, 2015.

64. Prescription Abuse Epidemic: The Perspectives of Law Enforcement, Pharmacists, and Dispensing Clinicians. The Doctors Company Malpractice Insurance Local Advisory Board Meeting. Seattle, WA. September 2015.
65. NASS Annual Meeting. Chicago, IL. October 2015.
66. Great Debate Course. Stryker Spine. Scottsdale, AZ. December 4, 2015.
67. AANS Winter Clinics for Cranial & Spinal Surgery presented by Mayfield Clinic, Mayo Clinic, Cleveland Clinic, Goodman Campbell Brain and Spine. Snowmass Village, Colorado. February 21-25, 2016.
68. 16th Annual Meeting of the International Society for the Advancement of Spine Surgery (ISASS). Podium Presentation. MIS TLIF techniques: comparison of a direct visualization approach vs. a pedicle based anatomic approach. Las Vegas, NV. April 8, 2016.
69. Rocky Mountain Neurosurgical Society Annual Meeting. MIS TLIF techniques: comparison of a direct visualization approach vs. a pedicle based anatomic approach. Whitefish, Montana, June 21, 2016.
70. Rocky Mountain Neurosurgical Society Annual Meeting. Return to Work Comparison for Workers Compensation Patients Treated with Cervical Disc Arthroplasty versus Anterior Discectomy and Fusion. Whitefish, Montana, June 21, 2016.
71. Society for Minimally Invasive Spine Surgery 17th Annual Meeting. A Wireless, Non-Optical System for Measuring Intra-Operative Spine Alignment. Las Vegas, Nevada, September 16, 2017.
72. Society for Minimally Invasive Spine Surgery 17th Annual Meeting. Molybdenum Rhenium (MoReTM) Alloy as a Superior Alloy for MIS Spinal Implants. Las Vegas, Nevada, September 16, 2017.