

Graham Mouw, M.D., F.A.A.N.S., F.A.C.S.
 Diplomate, American Board of Neurological Surgery
 Fellow American Association of Neurological Surgeons
 Fellow American College of Surgeons

Education

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| Spine Fellowship University of California, San Francisco (UCSF) San Francisco, California Director: Dr. Christopher Ames | 01/03 -06/03 |
| Chief Resident, Neurological Surgery Department of Neurological Surgery Case Western Reserve University/University Hospitals of Cleveland Cleveland, Ohio | 01/01 – 01/02 07/02 – 12/02 |
| Neurological Surgery Residency Department of Neurological Surgery Case Western Reserve University/University Hospitals of Cleveland Cleveland, Ohio | 07/97 – 06/03 |
| General Surgery Internship Department of General Surgery Case Western Reserve University/University Hospitals of Cleveland Cleveland, Ohio | 07/96 - 06/97 |
| Doctor of Medicine University of Southern California School of Medicine Los Angeles, California | 08/92 – 05/96 |
| Bachelor of Science University of California, Los Angeles Los Angeles, California <i>Psychobiology</i> | 09/87 – 06/92 |

Professional Experience

Founder, Motion Spine Institute 03/16 -present
Los Angeles, CA and Miami, Florida

Cedars-Sinai Medical Center Faculty 03/16 – 12/18
Spinal Neurosurgeon
Los Angeles, CA

**Medical Director of Neurological Surgery
and Neuro-Spine Surgery Center** 01/15 – 09/16
Valley Presbyterian Medical Center
Van Nuys, CA

Cleveland Clinic Florida Faculty 07/12 – 12/14
Spinal Neurosurgeon
Weston, Florida

Kaiser Permanente 05/05 – 05/12
Neurosurgeon
Partner , Southern California Permanente Medical Group

Private Practice
Cedars-Sinai Medical Center 07/03 – 05/05
Neurosurgeon
Los Angeles, California

Faculty
Spinal Neurosurgeon 06/16 – 12/18
Cedars-Sinai Medical Center

Spinal Neurosurgeon Faculty 05/12 – 12/14
Cleveland Clinic Florida

Affiliate Assistant Professor of 2013-2014
Clinical Biomedical Sciences
Florida Atlantic University
Charles E. Schmidt College of Medicine

8th Annual International Brain Tumor and Spine Surgery Symposium. 2019
3rd Annual International Brain Tumor and Spine Surgery Symposium. 2014
2nd Annual International Brain Tumor and Spine Surgery Symposium. 2013
Cleveland Clinic

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| Cleveland Spine Review: Hands-On 2013 Cleveland Clinic Center for Spine Health Cleveland, Ohio | 2013 |
| Course Instructor Nervous System Committee Case Western Reserve University School of Medicine | 1999 |
| <u>Honors and Awards</u> | |
| Resident Research Award First place The Ohio State Neurosurgical Society | 2000 |
| Dean's Scholar University of Southern California School of Medicine | 1996 |
| USC Medical Student Research Fellowship University of Southern California School of Medicine | 1995 |
| Chancellor's Service Award University of California, Los Angeles | 1992 |
| Student Research Program (Psychiatry) University of California, Los Angeles | 1990 |
| Student Research Program (Pediatrics) University | 1989 |
| <u>Additional Professional Experience:</u> | |
| Magellan Health Healthcare Management Company Physician reviewer for spinal surgery | 2016 |
| Cleveland Clinic Florida Sports Team Consultant (Neurosurgery/spine) | 2012 – 2013 |
| International Neurosurgery Fellow Department of Neurosurgery Khon Kaen University Khon Kaen, Thailand | 01/00 – 03/00 |
| Research Fellow Laboratory of Experimental Neurological Surgery Case Western Reserve University School of Medicine | 07/99 – 06/00 01/02 – 06/02 |

Research Assistant 06/96 – 12/96
 Laboratories for Neurological Surgery
 University of Southern California School of Medicine

Research Assistant 06/90 – 10/90
 Department of Psychiatry
 Harbor – UCLA Medical Center

Research Assistant 06/88 – 09/88
 Department of Neonatology
 UCLA Medical Center

Licensure

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| California (A78281) | 2002 (active) |
| Ohio (35.073613) | 1997 (active) |
| Florida (ME 112831) | 2012 (active) |

Board Certification

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| American Board of Neurological Surgery Board Certified | May, 2007 |
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Memberships

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| American Association of Neurological Surgeons | 1997 - present |
| Congress of Neurological Surgeons | 1997 - present |
| International Spine Intervention Society | 2010 - 2012 |

Publications and Presentations

Mouw, G.J. Motion Preservation- Cervical Lamina Replacement. VIII Brain Tumor & Minimally Invasive Spine Symposium. Miami, Florida, July 19th, 2019.

Mouw, G.J. Motion Sparing Surgery and Lamina Replacement. 17th Annual Caribbean Neuroscience Symposium. Montego Bay, Jamaica, February 23rd, 2019.

Mouw, G.J. Lamina Replacement: A novel technique for cervical lamina replacement after laminectomy. Congress of Neurological Surgeons. Houston, Texas, October 6th, 2018.

Mouw, G.J. Lamina Replacement: New Frontiers in Motion Sparing Spinal Surgery. VII Brain Tumor & Minimally Invasive Spine Symposium. Miami, Florida, July 19th, 2018.

Mouw, GJ. Robotic Spinal Surgery: Navigation and Robotics. VII Brain Tumor & Minimally Invasive Spine Symposium. Miami, Florida, July 19th, 2018.

Mouw, GJ. Motion Sparing Spinal Surgery and Lamina Replacement. Cedars-Sinai Spine Surgery Lecture Series. Marina Del Ray, California, July 18th, 2018.

Mouw, GJ. Motion Sparing Spinal Surgery. VI Brain Tumor & Minimally Invasive Spine Symposium. Hollywood, Florida, July 6th, 2017.

Mouw, GJ. O-arm, Cortical screws, Navigated Percutaneous Screws. VI Brain Tumor & Minimally Invasive Spine Symposium. Hollywood, Florida, July 6th, 2017.

Mouw, GJ. Motion Spine Institute; Motion Sparing Spinal Surgery. Health Education Center, Valley Presbyterian Hospital. Van Nuys, California, May 3rd, 2016.

Mouw, GJ. Spine Motion Preservation. V Brain Tumor & Minimally Invasive Spine Symposium. Hollywood, Florida, March 18, 2016.

Mouw, GJ. Cortical Screws, Fusion, and Navigation. V Brain Tumor & Minimally Invasive Spine Symposium. Hollywood, Florida, March 18, 2016

Mouw, GJ. Motion preservation spinal surgery: cervical laminoplasty and spinal restoration. Health Education Center, Valley Presbyterian Hospital. Van Nuys, California, May 12th, 2015.

Mouw, GJ. Cortical Screws, Fusion, and Navigation. IV Brain Tumor and Minimally Invasive Spine Symposium. Coral Gables, Florida, March 20th, 2015.

Mouw, GJ. Spine Motion Preservation. IV Brain Tumor and Minimally Invasive Spine Symposium. Coral Gables, Florida, March 20th, 2015.

Mouw, GJ. Spinal Restoration: Cervical Laminoplasty. Rotary Club Canejo Valley. Los Angeles, California, February 10th, 2015.

Mouw, GJ. Midline Cortical Screws, Expandable Lumbar Fusion Device and the O-arm, a Less Invasive Midline Approach for Lumbar Stabilization for Spondylolisthesis. Society for Minimally Invasive Spine Surgery (SMISS) Global Forum, Miami, September 20th, 2014.

Mouw, GJ. Spine motion preservation surgery. 3rd Brain Tumor and minimally invasive spine surgery symposium. Miami, March 21st, 2014.

Mouw, GJ. Spinal Restoration: Less Invasive Spinal Surgery. For Your Health Symposium. Cleveland Clinic. Weston, Florida, August 20th, 2013.

Mouw, GJ. Institute for Non-Surgical Orthopedics (INSO) Cranial Course. Spinal Restoration Surgery. Use of 3D computer assisted technology. Chiari malformation. Fort Lauderdale, Florida, May 31st, 2013.

Mouw GJ. Less Invasive Spinal Surgery and Spinal restoration. Use of 3D computer assisted technology. Cutting-edge understanding of research & education (C.U.R.E.) symposium. Boca Raton, Florida, April 6th, 2013.

Mouw, GJ. Intraoperative spine imaging and navigation. 2nd Annual International Brain Tumor and Spine Surgery Symposium. Cleveland Clinic. Weston, Florida, Feb 9th, 2013.

Mouw GJ. Intraoperative Neuro and spine imaging and navigation. Kaiser Permanente's 36th Annual Neurology and Neurosurgery Symposium, Newport Beach, CA October 2nd, 2010.

Mouw GJ, Selman WR, Ratcheson RA. In: *Encyclopedia of the Neurological Sciences*. "Cerebral protection." Daroff RB and Aminoff MJ, eds, 2003 (chapter).

Mouw GJ, Zechel JL, Gamboa J, Lust WD, Selman WR, Ratcheson RA. Activation of caspases-12, an Endoplasmic Reticulum (ER) resident caspase, after cerebral ischemia in a rat stroke model. *Neuroreport* 14 (2): 183-6, 2003.

Mouw GJ, Zechel JL, Gamboa J, Lust WD, Selman WR, Ratcheson RA. Activation of caspases-12, an Endoplasmic Reticulum (ER) resident caspase, after cerebral ischemia in a rat stroke model. AANS/CNS Section on Cerebrovascular Surgery, Phoenix, Arizona, February 15-19th, 2003.

Mouw GJ, Zechel JL, Yifang Z, Lust WD, Selman WR, Ratcheson RA. Caspase-9 inhibition after focal ischemia attenuates neurological injury. *Metabolic Brain Disease* 17 (3): 143-151, 2002.

Mouw GJ, Zechel JL, Yifang Z, Lust WD, Selman WR, Ratcheson RA. Caspase-9 inhibition after focal ischemia attenuates neurological injury. AANS/CNS Section on Cerebrovascular Surgery, Big Island, Hawaii, February 9-12th, 2001.

Mouw GJ, Zechel JL, Yifang Z, Lust WD, Selman WR, Ratcheson RA. Caspase-9 inhibition after focal ischemia attenuates neurological injury. The Ohio State Neurosurgical Society, Cleveland, Ohio, September 9th, 2000. (1st place).

Mouw GJ, Zhou Y, Selman WR, Lust DW, Ratcheson RA. Age-dependent Outcome of Reversible Focal Ischemia in Rats. AANS/CNS Section on Cerebrovascular Surgery, New Orleans, LA, February 6-9th, 2000.

Mouw GJ, Giannotta SL, Weiss MH, Degiorgio CM, Correale JD, Zlokovic BV: Effect of cerebral protection agents on neuron specific enolase (NSE) in a rat stroke model. *Journal of Investigative Medicine* 44: 134, 1996.

Mouw GJ, Choi S, Giannotta SL: Delayed Epidural hematoma (DEDH). *USC Journal of Medicine* 8: 17-18, 1996.

McCracken JT, Hinshaw SP, Antonio CD, **Mouw GJ**. Steroid Hormones in ADHD males; relations to behavioral domains. Scientific Proceedings of the Annual Meeting of Child and Adolescent Psychiatry, San Francisco, 1991.

Grants

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| The Upjohn Company Educational Grant | 1995 |
| Wyeth –Ayerst Educational Grant | 1995 |

Media

Ortho Spine News: First ever Haven Lamina Replacement performed by Dr. Graham Mouw, Los Angeles, January 2018.

First in California to Implant Artificial Disc (Lumbar Activ-L). BusinessWire. October 12, 2015.

790 KABC Talk Radio. The Doctor's Roundtable – Podcast. Spinal Neurosurgery and Spinal Restoration. Los Angeles, August 8, 2015.

Ventura Blvd Magazine. Top Doctors: Board-certified Spinal Neurosurgeon. Los Angeles, CA, July 2015.

PBS – Los Angeles; American Health Journal. Motion Sparing Back Surgery. June, 2015.

America's top hospital blog: Healthhub from Cleveland Clinic. Lumbar and Cervical Surgery for Spinal Conditions. October 2013.

NBC Miami. Staying healthy medical segment. Cervical Laminoplasty. August, 2013.

Palm Beach Post. State-of-the-art Spine Surgery with the O-arm. Palm Beach, Florida, May, 2013.

The Anita Finley radio talk show. Computer assisted spinal surgery using the O-arm. Boomer Radio. WSBR, 740 AM, Boca Rotan Florida, January 2013.

NBC Miami. Staying Healthy medical segment. 3D computer-assisted spinal surgery. December, 2012.

Patents, Inventions, Trademarks, Technology

Apps:

“**Motion Spine Institute**”: Available on Apple app store and Android app on Google Play, 2016-present.

-The leading institution for motion sparing spinal surgery

Inventor/owner of first mobile device apps in the world to allow communication with a doctor for medical questions. Inventor of telemedicine for Smartphone Apps.

Inventor of Android Apps “**Doctor**” and “**Surgeon**”: Android Market 2009 - present

Inventor of Apple Apps “**My Doctor**” and “**iDOC**”: AppStore 2009-2017.

Website:

www.motionspineinstitute.com

Consultant:

Globus Medical, Inc. Audobon, PA (US) 2014-present

Patents:

Lamina implant and method

Patent No. 20140018920

Date of patent: January 16, 2014

Inventor: Graham Mouw

Lamina Implant and Method

Patent no.: US 9138325

Date of Patent: Sep. 22, 2015

Inventor: Graham Mouw

Lamina implant and method

Patent No. 20150320447

Date of patent: November 12, 2015

Inventor: Graham Mouw

Lamina Implant and Method

Patent no.: US 9439690

Date of Patent: Sep. 13, 2016

Inventor: Graham Mouw

Lamina implant and Method

Patent No. 20160374734

Date of patent: December 29, 2016

Inventor: Graham Mouw

Lamina Implant and Method
Patent no.: US 10034694
Date of Patent: July 31, 2018
Inventor: Graham Mouw

Lamina Implant and Method
Patent No: 20180353221
Date of patent: December 13, 2018
Inventor: Graham Mouw

Lamina Implant and method
Patent No. 10758278
Date of patent: September 1, 2020
Inventor: Graham Mouw

Devices:
Globus Haven™
World's first Dual plate laminoplasty system.
FDA approved July 2017.

Inventor of Lamina Replacement

