

**John M. Abrahams, M.D.**  
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**Date of Preparation:** October 16, 2024

**Personal Data:**

Name: John M. Abrahams  
Citizenship: USA

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| <i>Work Experience</i>        |                                                                                                                       |                            |
| 08/2025 - Present             | <b><i>NYP – Hudson Valley Hospital</i></b><br><i>Attending Neurosurgeon</i><br><i>Chief of Neurosurgery</i>           | <i>Cortlandt Manor, NY</i> |
| 08/2025 - Present             | <b><i>Clinical Assistant Professor of Neurosurgery</i></b><br><i>Columbia University Medical Center</i>               | <i>Cortlandt Manor, NY</i> |
| 07/2023 - Present             | <b><i>New York Brain &amp; Spine Surgery, P.C.</i></b><br><i>Founder, President, Neurosurgery</i>                     | <i>White Plains, NY</i>    |
| 08/2017 – 06/2023             | <b><i>Hudson Health, LLC</i></b><br><i>Founder &amp; President</i>                                                    | <i>White Plains, NY</i>    |
| 06/2016 – 01/2023             | <b><i>Brain &amp; Spine Surgeons of New York, P.C</i></b><br><i>President, Neurosurgeon</i>                           | <i>White Plains, NY</i>    |
| 06/2021 – 01/2024             | <b><i>St. Francis Hospital</i></b><br><i>Attending Neurosurgeon</i>                                                   | <i>Roslyn, NY</i>          |
| 07/2004 – Present             | <b><i>White Plains Hospital</i></b><br><i>Attending Neurosurgeon</i>                                                  | <i>White Plains, NY</i>    |
| 09/2020 – 07/2024             | <b><i>Stamford Hospital</i></b><br><i>Attending Neurosurgeon</i>                                                      | <i>Stamford, CT</i>        |
| 09/2004 – 07/2016             | <b><i>NYP/Lawrence Hospital</i></b><br><i>Attending Neurosurgeon</i>                                                  | <i>Bronxville, NY</i>      |
| 09/2019 – 09/2022             | <b><i>Putnam Hospital</i></b><br><i>Attending Neurosurgeon</i>                                                        | <i>Carmel, NY</i>          |
| 08/2017 – 11/2019             | <b><i>Northwell Health</i></b><br><i>Director, Neurosurgery, Westchester County</i>                                   | <i>White Plains, NY</i>    |
| 04/2013 – 04/2015             | <b><i>Westchester Medical Center</i></b><br><i>Consultant, Westchester Medical Center Advanced Physician Services</i> | <i>Valhalla, NY</i>        |
| 07/2004 – 06/2023             | <b><i>Brain &amp; Spine Surgeons of New York, P.C.</i></b><br><i>Neurosurgeon</i>                                     | <i>White Plains, NY</i>    |
| 07/2002 – 06/2004             | <b><i>Montefiore Medical Center</i></b><br><i>Attending Neurosurgeon</i>                                              | <i>Bronx, NY</i>           |
|                               |                                                                                                                       |                            |
| <i>Post-Doctoral Training</i> |                                                                                                                       |                            |
| 07/2001 – 06/2002             | <b><i>Hospital of the University of Pennsylvania</i></b><br><i>Neurosurgery, Chief Resident</i>                       | <i>Philadelphia, PA</i>    |
| 07/2000 – 12/2000             | <b><i>Hospital of the University of Pennsylvania</i></b>                                                              | <i>Philadelphia, PA</i>    |

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|                   | <i>Spine Fellow</i>                                                                |                         |
| 07/1999 – 06/2000 | <b>Institute for Medicine &amp; Engineering, PENN</b><br><i>Research Assistant</i> | <i>Philadelphia, PA</i> |
| 07/1996 – 06/2001 | <b>Hospital of the University of Pennsylvania</b><br><i>Neurosurgery, Resident</i> | <i>Philadelphia, PA</i> |
| 07/1995 – 06/1996 | <b>New York University Medical Center</b><br>Intern, General Surgery               | <i>New York, NY</i>     |

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| Education         |                                                                              |              |
| 08/1991 – 05/1995 | <b>New York Medical College</b><br><i>MD, Medicine</i>                       | Valhalla, NY |
| 08/1989 – 05/1991 | <b>Rensselaer Polytechnic Institute</b><br><i>MS, Biomedical Engineering</i> | Troy, NY     |
| 08/1985 – 05/1989 | <b>Le Moyne College</b><br><i>BS, Physics</i>                                | Syracuse, NY |

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| Specialty Certification |                                                                          |  |
| 01/2012                 | <b>American Board of Neurological Surgeons</b><br><i>Recertification</i> |  |
| 12/2004                 | <b>American Board of Neurological Surgeons</b><br><i>Certification</i>   |  |

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| Licensure |                    |  |
| 04/2002   | <b>New York</b>    |  |
| 11/2009   | <b>Connecticut</b> |  |

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| <i>Awards, Honors and Membership in Honorary Societies</i> |                                                                                                                 |
| 03/2001                                                    | <b>Best Research Presentation, Pennsylvania Neurologic Society</b>                                              |
| 09/2001                                                    | <b>Galbraith Award for Research, Cerebrovascular Surgery</b><br><i>Congress of Neurological Surgeons</i>        |
| 11/2001                                                    | <b>Best Abstract, 4<sup>th</sup> International Society of Neurosurgical Technology and Instrument Invention</b> |

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|-------------------------------------------------------------|-------------------------------------------------------------------------------------------|
| <i>Memberships in Professional and Scientific Societies</i> |                                                                                           |
| 09/2002                                                     | <b>Congress of Neurological Surgeons</b><br><i>Member</i>                                 |
| 09/2002                                                     | <b>American Association of Neurological Surgeons</b><br><i>Member</i>                     |
| 07/2003                                                     | <b>AANS/CNS Cerebrovascular Section</b><br><i>Member</i>                                  |
| 03/2004                                                     | <b>Medical Society of the State of New York</b><br><i>Member</i>                          |
| 10/2004                                                     | <b>New York State Neurosurgical Society</b><br><i>Member</i>                              |
| 10/2024                                                     | <b>Westchester Academy of Medical Science</b><br><i>Director, Socioeconomic Committee</i> |

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| 11/2024 | <b>Westchester County Association</b><br><i>Member</i> |
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| <i>Teaching Responsibilities</i> |                                                                                                       |
| 08/2025 - Present                | <b>NYP – Hudson Valley Hospital</b><br><i>Chief, Neurosurgery</i>                                     |
| 01/2013 – 09/2019                | <b>Northern Westchester Hospital</b><br><i>Chief, Neurosurgery</i>                                    |
| 04/2013 – 06/2016                | <b>Westchester Medical Center</b><br><i>Directors, Brain Tumor Program</i>                            |
| 01/2012 - Present                | <b>Northern Westchester Hospital</b><br><i>Co-Director, Spine Section, Orthopedic Spine Institute</i> |
| 05/2008 - Present                | <b>New York Medical College</b><br><i>Associate Professor, Neurosurgery</i>                           |
| 07/2002 – 06/2004                | <b>Montefiore Medical Center</b><br><i>Assistant Professor, Neurosurgery</i>                          |

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| <i>Initiatives</i> |                                                                               |
| 01/2010            | <b>Brain &amp; Spine Research Institute</b><br><i>Founder &amp; President</i> |

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| <b>Funding &amp; Grants</b> |                                                                                                                        |           |
| 11/2006                     | <b>Medtronic Charitable Contributions</b><br><i>Gap Junction Inhibitors for Spinal Cord Injury</i>                     | \$50,000  |
| 09/2006                     | <b>Spinal Motion Kineflex-C Cervical Disc Replacement</b><br><i>Principal Investigator</i>                             | -         |
| 06/2006                     | <b>Integra Foundation</b><br><i>Randomized Study Using Licox in Traumatic Brain Injury</i>                             | \$100,000 |
| 01/2006                     | <b>New York Medical College Intramural Grant</b><br><i>Carbenoxone-eluting stents for treatment of acute stroke</i>    | \$10,000  |
| 09/2003                     | <b>Anspach Grant</b><br><i>De Novo Neurogenesis and Gliogenesis in a Rat Model of Stroke</i>                           | \$25,000  |
| 01/2003                     | <b>Albert Einstein College of Medicine Starter Grant</b><br><i>Induction Neurogenesis in a Rat MCA Model of Stroke</i> | \$40,000  |

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| <i>Lectures by Invitation</i> |                                                                                                                                                                                                                                    |
| Apr 2, 1991                   | “Effects of Heat and Pressure on Surface Light Reflectance at 660 and 880nm” - 3 <sup>rd</sup> Annual Northeast Bioengineering Conference, Hartford, CT.                                                                           |
| Aug 26, 1999                  | “Biologically Active Devices in Endovascular Neurosurgery” - Neurosurgery Grand Rounds, The Hospital of the University of Pennsylvania, PA.                                                                                        |
| Feb 10, 2001                  | “Delivery of human vascular endothelial growth factor with platinum coils enhances wall thickening and coil impregnation in a rat aneurysm model” - Fourth AANS/ Cerebrovascular Section Meeting, Hawaii.                          |
| Mar 7, 2001                   | “Surface Modifications of Platinum Microcoils for Localized Adenovirus Delivery under conditions of Arterial Stasis and Pressurization” - Philadelphia Neurologic Society, Philadelphia.                                           |
| Oct 1, 2001                   | “Surface Modifications of Platinum and Biodegradable Microcoils for Localized Adenovirus Delivery In Vitro and In Vivo using a Rat Aneurysm Model. – Congress of Neurological Surgeons 51st Annual Meeting, San Diego, California. |
| Oct 1, 2001                   | “Biodegradable Polyglycolide Endovascular Coils Promote Wall Thickening and Drug Delivery in a Rat Aneurysm Model” – Congress of Neurological Surgeons 51st Annual Meeting, San Diego, California.                                 |
| Dec 7, 2001                   | “Surface Modifications of Platinum and Biodegradable Microcoils for                                                                                                                                                                |

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|               | Localized Adenovirus Delivery In Vitro and In Vivo using a Rat Aneurysm Model.” The Thirteenth Pan-Philadelphia Neurosurgery Conference, Philadelphia, Pennsylvania.                                      |
| Sep 18, 2002  | “Endovascular Research in Neurosurgery” Department of Biomedical Engineering, City College of New York, New York, New York.                                                                               |
| Nov 13, 2002  | “Cerebrovascular Disease in Neurosurgery”, Albert Einstein College of Medicine, Bronx, New York.                                                                                                          |
| Dec 3, 2002   | “Evaluation of Subarachnoid Hemorrhage in the Emergency Room”, Department of Emergency Medicine Grand Rounds, Montefiore Medical Center, Bronx, New York.                                                 |
| Feb 18, 2003  | “Subarachnoid Hemorrhage on CT Scanning Predicts Development of Cerebral Vasospasm: The Fisher Grade Revisited” - Sixth AANS/Cerebrovascular Section Meeting, Phoenix, Arizona.                           |
| Mar 10, 2003  | “De Novo Neurogenesis and Acute Stroke: Are Exogenous Stem Cells Really Necessary?”, Department of Ophthalmology Grand Rounds, Albert Einstein College of Medicine, Montefiore Medical Center, Bronx, NY. |
| Dec 8, 2003   | “Medical Management of Cerebral Vasospasm”, Department of Critical Care Grand Rounds, Albert Einstein College of Medicine, Montefiore Medical Center, Bronx, NY.                                          |
| Mar 11, 2004  | “Cervical and Lumbar Spondylosis”, Department of Medicine Grand Rounds, Bronx-Lebanon Medical Center, Bronx, NY.                                                                                          |
| Sep 22, 2005  | “Subarachnoid Hemorrhage”, Department of Neurosurgery Grand Rounds, New York Medical College, Valhalla, NY.                                                                                               |
| Mar 3, 2006   | “Spinal Cord Syndromes”, First Year Medical Students, New York Medical College, Valhalla, NY.                                                                                                             |
| Mar 17, 2006  | “Entrepreneurship in Neurosurgery”, Department of Neurosurgery Grand Rounds, New York Medical College, Valhalla, NY.                                                                                      |
| Mar 29, 2006  | “Entrepreneurship in the Neurosciences”, Department of Neurology Grand Rounds, New York Medical College, Valhalla, NY.                                                                                    |
| April 4, 2007 | “Entrepreneurship in Neurosurgery”, Department of Neurosurgery Grand Rounds, University of Pennsylvania, Philadelphia, Pennsylvania.                                                                      |
| Feb 13, 2008  | “Cerebral Oxygenation in Traumatic Brain Injury”, Department of Neurology Grand Rounds, New York Medical College, Valhalla, NY.                                                                           |
| Mar 13, 2008  | “Managing the Head Injured Patient”, Critical Care Nursing Symposium, Department of Surgery; Division of Trauma, New York Medical College, Valhalla, NY.                                                  |
| October 2008  | “Entrepreneurship in Neurosurgery”, 56 <sup>th</sup> Congress of Neurological Surgeons, Orlando, FL.                                                                                                      |
| October 2009  | “Entrepreneurship in Neurosurgery”, 57 <sup>th</sup> Congress of Neurological Surgeons, San Diego, CA.                                                                                                    |
| October 2010  | “Entrepreneurship in Neurosurgery”, 58 <sup>th</sup> Congress of Neurological Surgeons, San Francisco, CA.                                                                                                |
| October 2012  | “Innovation in Neurosurgery”, 60 <sup>th</sup> Congress of Neurological Surgeons, Chicago, IL.                                                                                                            |

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| Bibliography |  |
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- Abrahams JM. Effects of heat and exercise on light reflectance within biological tissue using red and infrared light. Master’s Thesis, August 1991.
- Sakuma J, Ciporen J, Abrahams J, Young W. Independent depressive mechanisms of GABA and (+/-)-8-hydroxy-dipropylaminotetralin hydrobromide on young rat spinal axons. *Neuroscience* 75(3):927-38, 1996.
- Saruhashi Y, Young W, Sugiomori M, Abrahams J, Sakuma J. Evidence for serotonin sensitivity of adult rat spinal axons: studies using randomized double pulse stimulation. *Neuroscience* 80(2):559-66, 1997.
- Abrahams JM, Forman MS, Lavi E, Goldberg HI, Flamm ES. Hemangiopericytoma of the Third Ventricle: Case Report. *J Neurosurg* 90(2):359-362, 1999.
- Abrahams JM, Hurst RW, Zager EL. Anterior choroidal arterial supply to the posterior cerebral artery distribution: Embryology and clinical implications. *Neurosurgery* 44(6):1308-1314; 1999.
- Abrahams JM, Flamm ES. Hemangiopericytoma of the Third Ventricle: Case Report. Comment. *J Neurosurg* 91:167, 1999.
- Abrahams JM, Duhaime AC, Rorke LB, Sutton LN, Schut L. Extrarenal nephroblastic proliferation in spinal dysraphism. *Pediatr Neurosurg* 31:40-44, 1999.
- Saruhashi Y, Young W, Sugiomori M, Abrahams JM, Sakuma J. GABA increases refractoriness of adult rat dorsal column axons. *Neuroscience* 94(4):1207-1212, 1999.
- Abrahams JM, Diamond SL, Hurst RW, Zager EL, Grady MS. Topic Review: Surface Modifications of Guglielmi Detachable Coils. *Surg Neurol* 54(1):34-51, 2000.
- Abrahams JM, Arle JE, Hurst RW, Flamm ES. Extracranial Aneurysms of the Posterior Inferior Cerebellar Artery. *Cerebrovasc Dis.* 2000 Nov-Dec;10(6):466-70.
- Abrahams JM, Forman MS, Grady MS, Diamond SL. Delivery of human vascular endothelial growth factor with platinum coils enhances wall thickening and coil impregnation in a rat aneurysm model. *AJNR Amer J Neuroradiol* 22(7):1410-7, 2001.
- Abrahams JM, Putt M, Kaiser LB, Judy KJ. Risk factors affecting survival after brain metastases from non-small cell lung carcinoma: a follow-up study of 70 patients. *J Neurosurg* 95(4):595-600, 2001.
- Abrahams JM, Forman MS, Grady MS, Diamond SL. Biodegradable Polyglycolide Endovascular Coils Promote Wall Thickening, Drug Delivery, and Gene Transfer in a Rat Aneurysm Model. *Neurosurgery* 49(5):1187-95, 2001.

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- Abrahams JM, Song C, Forman MS, Grady MS, Levy RJ, Diamond SL. Endovascular microcoil gene delivery using immobilized anti-adenovirus antibody for vector tethering. *Stroke* 33:1376-82, 2002.
- Abrahams JM, Saha PK, Hurst RW, Udupa JK, LeRoux, PD. Bone-Free Renditions of the Cerebrovasculature Using Three-Dimensional Computed Tomographic Angiography Using Fuzzy Connectedness. *Neurosurgery* 51:264-269, 2002.
- Abrahams JM, Reiter GT, Acker MA, Sinson GP. Propofol (Letter). *J Neurosurg* 96:1160-1, 2002.
- Abrahams JM, McGarvey M, Putt M, Baranov D, Sinson GP. Assessment of Coagulability in Neurosurgical Patients Using Thromboelastography. *Surg Neurol* 58:5-12, 2002.
- Arle JA, Abrahams JM, Zager EL, Taylor C, Galetta S. Pupil-Sparing Third Nerve Palsy with Preoperative Improvement from a Posterior Communicating Artery Aneurysm. *Surg Neurol* 57:423-7, 2002.
- Abrahams JM, Sinson GP, Bagley LJ, Flamm ES, Hurst RW. Anterior Fossa Dural Arteriovenous Malformations: Clinical Presentation and Management Considerations. *Surg Neurol* 58:410-6, 2002.
- Abrahams JM, Gokhan S, Flamm ES, Mehler MF. Topic Review: De Novo Neurogenesis and Acute Stroke: Are Exogenous Stem Cells Really Necessary? *Neurosurgery* 54:150-6.
- ANCES BM, McGarvey ML, Abrahams JM, Maldjian JA, Alsop DC, Zager EL, Detre JA: Continuous Arterial Spin Labeled Perfusion Magnetic Resonance Imaging in Patients Before and After Carotid Endarterectomy. *J Neuroimaging* 14:133-8, 2004.
- Smith ML, Abrahams JM, Chandela S, Smith MJ, Hurst RW, Le Roux PD. Subarachnoid Hemorrhage on Computed Tomography Scanning, and the Development of Cerebral Vasospasm: The Fisher Grade Revisited 20 Years Later. *Surg Neurol* 63, 229-34, 2005.
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- Omeis I, Chen W, Jhanwar-Uniyal M, Rozental R, Murali R, Abrahams JM: Local Delivery of Cromakalim Using a Biodegradable Controlled-Release System Prevents Cerebral Vasospasm in a Rat Subarachnoid Hemorrhage Model. *J Neurosurg* 110(5):1015-20, 2009.
- Omeis I, Neil JA, Murali R, Abrahams JM: Treatment of Cerebral Vasospasm with Controlled-Release Systems for Intracranial Drug Delivery: Topic Review. *Neurosurgery* 63(6):1011-9, 2008.
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- Pan H, Zimmerman T, Zakhaleva J, Abrahams JM, Jiang H, Chen W. Embolization of a Common Carotid Aneurysm with rhVEGF coupled to a pH-Responsive Chitosan in a Rat Model. *J Neurosurg*, 112(3):658-65, 2010.
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- Elsabeh R, Stegall R, Abrahams J. Increased Spinal Lumbar Fusion with Combined Magnetic Field (CMF) Bone Growth Stimulation. *J Ortho Surg Tech* 3(1):84 – 91, 2020.
- Elsabeh R, Singh S, Shasho J, Saltzman Y, Abrahams JM. Cranial Neurosurgical Robotics. *Br J Neurosurgery*. 2021 35(5):532-540.
- Abrahams JM. The Future of Private Practice Neurosurgery. *J Neurosurg* 2023 17:1-6.
- Elsabeh RE, Abrahams JM. Best Practices in Cervical and Lumbar Fusion. *J Spine Surg* 2024 10(3):514-520.
- Elsabeh RE, Abrahams JC, Krosser BI, Abrahams JM. Single Neurosurgeon Experience with the ZimVie LDR-C ROI Implant: A Study of 236 Patients with Predictive Outcome Modeling. *J Spine Res Surg* 2024 6(2):36 – 40.
- Abrahams JM. The Basics of Artificial Intelligence in Healthcare and Neurosurgery. *World Neurosurg* 2024, 193: 171 - 175.
- Abrahams JM, Krosser BI, Bielski MR. Novel Autograft Bone Harvesting Device used in 232 Consecutive Patients who Underwent Cervical or Lumbar Fusion: Initial Experience, Outcome, and Cost Analysis in a Retrospective Study. *J Spine Surg* (11)3, 477 – 483, 2025.

## Abstracts

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- Sakuma J, Ciporen J, Saruhashi Y, Abrahams J, Young W. Independent depressive mechanisms of GABA and 5-HT1A on rat spinal axons. *Society for Neuroscience Abstract*, May 1995.
- Sakuma J, Saruhashi Y, Abrahams J, Young W. Role of receptors on rat spinal axons. *Third International Neuroscience Symposium Abstract*, July 1995.
- Abrahams JM, Hurst RW, Zager EL. Novel three-dimensional image reconstruction for computed tomographic angiography. *Congress of Neurological Surgeons Abstract*, Boston, MA, October 1999.
- Abrahams JM, Chalela JA, Maldjian JA, Alsop DC, Zager EL, Detre JA. Noninvasive MRI evaluation of cerebral blood flow in patients before and after carotid endarterectomy. *Congress of Neurological Surgeons Abstract*, Boston, MA, October 1999.
- Treatment of non-small cell lung carcinoma brain metastasis: The experience at the Hospital of the University of Pennsylvania. *Congress of Neurological Surgeons Abstract*, San Antonio, TX, September 2000.

- Topic Review: Surface modifications enhancing biological activity of Guglielmi detachable coils in treating intracranial aneurysms. Congress of Neurological Surgeons Abstract, San Antonio, TX, September 2000.
- Abrahams JM, Song C, Forman MS, Grady MS, Levy RJ, Diamond SL. Biodegradable Polyglycolide Endovascular Coils Promote Wall Thickening, Drug Delivery, and Gene Transfer in a Rat Aneurysm Model of Arterial Hemostasis and Pressurization. Medtronic Neurosurgery + Science + Management Meeting Abstract, New Orleans, LA, October 2000.
- Saha PK, Abrahams JM, Udupa JK. Bone-free renditions of cerebral aneurysms via 3D computed tomographic angiography. 86<sup>th</sup> Radiology Society of North America, November 2000.
- Saha PK, Udupa JK, Abrahams JM. Automatic bone-free rendering of cerebral aneurysms via 3D-CTA. SPIE: Medical Imaging, December 2000.
- Abrahams JM, Song C, Forman MS, Grady MS, Levy RJ, Diamond SL. Biodegradable Polyglycolide Endovascular Coils Promote Wall Thickening & Drug Delivery in a Rat Aneurysm Model. Neurosurgery 49(2):507, August 2001.
- Abrahams M. MD., Song, C, Grady MS, Diamond SL, Levy RJ. Surface Modifications of Platinum and Biodegradable Microcoils for Localized Adenovirus Delivery in Vitro and in Vivo Using a Rat Aneurysm Model. Neurosurgery 49(2):506, August 2001.
- Abrahams JM, Khurana D, Lenart CJ, Gokhan S, Mehler MF. Temporal Variation of Induction Neurogenesis in a Rat Model of Transient Middle Cerebral Artery Occlusion. Neurosurgery 55(2):452-453, August 2004.
- Bloch O, Raizer JJ, Lim M, Sughrue M, Komotar R, Abrahams J, O'Rourke O, D'Ambrosio A, Bruce JN, Parsa A. Increased Survival For Newly Diagnosed Glioblastoma Patients Treated With An Autologous Heat Shock Protein Peptide Vaccine: PD-L1 Expression Modulates Response To Therapy. American Society of Clinical Oncology. May 2015.
- Abrahams JM, Elsabeh R. Utilization of a Bone Dust Collector in Anterior Cervical Fusion and Posterior Lumbar Interbody Fusion. Amer Assoc Neurol Surg, Aug 2021.
- Abrahams JM, Elsabeh R. Does the application of a Hemostatic Bone Putty consisting of Hydroxyapatite and  $\beta$ -Tricalcium Phosphate hinder bony fusion in Anterior Cervical Discectomy and Fusion? Amer Assoc Neurol Surg, Aug 2021.
- Abrahams JM, Elsabeh R. Utilization of an Automated SMS-based electronic Patient Reported Outcome Tool in Spinal Surgery Patients. Amer Assoc Neurol Surg, Aug 2021.
- Abrahams JM, Elsabeh R. Utility of Intraoperative Neuromonitoring Alerts Relating to Adverse Outcomes in Spine Surgery: A Study of 289 Patients. Amer Assoc Neurol Surg, Aug 2021.

Editorials, Reviews, Chapters (Print or Other Media)

Editorial Board, ASM Journal, Sept 2024 – Aug 2026

Ad Hoc Reviewer, Neurosurgery, 2023 - Present

Ad Hoc Reviewer, World Neurosurgery, 2024 – Present

Ad Hoc Reviewer, Journal of Spine Surgery, 2025 - Present

| <i>Business Experience</i> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2024                       | MIT Artificial Intelligence in Healthcare: Fundamentals & Applications<br>12 Week Course; 4 Continuous Education Credits                                                                                                                                                                                                                                                                                                                                                              |
| 2023                       | Founded New York Brain & Spine Surgery, P.C. ( <a href="http://www.nybrainspine.com">www.nybrainspine.com</a> )                                                                                                                                                                                                                                                                                                                                                                       |
| 2023                       | Founded DTX Medical ( <a href="http://www.dtxmed.com">www.dtxmed.com</a> ) as an outcome and remote telemetric monitoring (RTM) service line to integrate into orthopedic surgery, neurosurgery, physiatry and physical therapy practices. Two full-time employees with revenue expected March/April 2023. <i>Acquired by Memora Health in 2024.</i>                                                                                                                                  |
| 2023                       | Founded the Center for Cognitive Health ( <a href="http://www.cognitive-centers.com">www.cognitive-centers.com</a> ) for the treatment of all cognitive disorders and concussion. The program has been adopted for a complete virtual care experience including at-home therapy.                                                                                                                                                                                                      |
| 2017                       | Founded Hudson Health LLC ( <a href="http://www.hudsonhealth.com">www.hudsonhealth.com</a> ) as a management company to manage BSSNY and grew to 100 employees with a full-service line include Revenue Cycle Management, Information Technology, Compliance, Marketing, Research and Development.                                                                                                                                                                                    |
| 2016                       | Merged three surgical groups into Brain & Spine Surgeons of New York ( <a href="http://www.bssny.com">www.bssny.com</a> ) increasing revenue from \$21 M to \$45 M integrating 100 employees and extending the clinical program to 9 offices across the Hudson Valley. Acting President of the practice managing all day-to-day operations. Developed full-time research department with abstract and manuscript submission to multiple national meetings and peer-reviewed journals. |
| 2016                       | Founded Osteomedix, Inc. to develop a novel Bone Collecting Device approved by the FDA and used in spine surgery. Merged into Capeus Medical, Inc. ( <a href="http://www.capeus.com">www.capeus.com</a> ) with salesforce and growing sales figures.                                                                                                                                                                                                                                  |
| 2015                       | Robotics Research Project. Self-funded program to develop a Neurosurgical Robot through Master/Slave interaction. Partnered with Honeybee Robotics (Brooklyn, NY) and developed a Smart Retractor System. Patent granted in 2024.                                                                                                                                                                                                                                                     |

| Patents         |                                                                      |
|-----------------|----------------------------------------------------------------------|
| 2024/0148457 A1 | Smart Robot-Assisted Brain & Spine Surgical System                   |
| 9,414,866       | Spinal implant apparatuses and methods of implanting and using same. |
| 9,731,044       | Biopolymer system for tissue sealing.                                |
| 9,259,434       | Biopolymer system for tissue sealing.                                |
| 8,679,088       | Cranial evacuation system and use thereof.                           |

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|----------------|-------------------------------------------------------------------------|
| 8,636,744      | Spinal implant apparatuses and methods of implanting and using same.    |
| 8,591,856      | Single Crystal Diamond Electrochemical Electrode                        |
| 8,513,217      | Biopolymer system for tissue sealing.                                   |
| 9,387,029      | Spring Screw Apparatuses and Methods Using the Same                     |
| 7,854,923 B2   | Biopolymer system for tissue sealing.                                   |
| 7,829,377 B2   | Diamond Medical Devices                                                 |
| 2,808,235      | Systeme De Biopolymeres Pour Reparer De Tissus (Canada).                |
| 2,858,696      | Systeme De Biopolymeres Pour Reparer De Tissus (Canada).                |
| 2,686,132      | Systeme De Biopolymeres Pour Reparer De Tissus (Canada).                |
| 2,013,237 B1   | Biopolymer System for Tissue Sealing (Europe).                          |
| WO2007149130A1 | Composition and Method for Vascularization                              |
| WO2009017753A2 | Chitosan-Based Bioploymer System for Treating Degenerative Disc Disease |
| WO2006076354A3 | Diamond Medical Devices                                                 |

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| Pending Patents |  |
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|------------|----------------------------------------------------------|
| 15/206,698 | Spring and Screw Apparatus and Methods of Using the Same |
| 15/328,671 | Anatomical Specimen Collection Device & System           |