

## CURRICULUM VITAE

### BIOGRAPHICAL

**Name:** Michael Bruce Horowitz, M.D.      **Birth Date:** 8/8/62  
**Birth Place:** New York, NY  
**Citizenship:** USA  
**Email:** [horomb@gmail.com](mailto:horomb@gmail.com)

**Business Address:** Pennsylvania Brain and Spine Institute      **Business Phone:** 855-365-PBSI  
6998 Crider Road, Suite 210      **Business Fax:** pending  
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### NEUROSURGICAL PROCEDURE VIDEOS

Michael Horowitz, M.D., surgeon and narrator

[Youtube.com/neuroPitt](https://www.youtube.com/neuroPitt)

[neurosurgery.pitt.edu/cerebrovascular/endovascular/videos.html](http://neurosurgery.pitt.edu/cerebrovascular/endovascular/videos.html)

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### EDUCATION AND TRAINING

#### Undergraduate:

1980-1984      Williams College      B.A. Biology  
Williamstown, MA  
Cum Laude with Highest Honors  
Honors Thesis: The regeneration of Mauthner axons in goldfish

#### Graduate:

1984-1988      University of Rochester School of Medicine MD  
Rochester, N.Y.

#### Post Graduate Training:

7/88-6/89      University of Pittsburgh Medical Center      Program Director:  
General Surgery Internship      Richard Simmons, MD  
Pittsburgh, PA

7/89-6/94      University of Pittsburgh Medical Center      Program Director:  
Residency Neurological Surgery      L. Dade Lunsford, MD  
Pittsburgh, PA      Peter Janetta, MD

#### Fellowship:

7/94-6/96      Neuroendovascular Surgery/Interventional      Program Director:  
Neuroradiology      Phillip Purdy, MD  
UT Southwestern Medical Center  
Dallas, TX

## ACADEMIC APPOINTMENTS

02/13-present	Pennsylvania Brain and Spine Institute Co-Director Mars, PA
06/07-08/09	Chief of Neurosurgery University of Pittsburgh Medical Center Pittsburgh, PA
2/07-11/12	Professor of Neurosurgery and Radiology with Tenure University of Pittsburgh Medical Center Pittsburgh, PA
2004 – 2007	Associate Professor of Neurosurgery and Radiology with Tenure University of Pittsburgh Medical Center Pittsburgh, PA
2005 – Present	Co-Director Neurovascular Surgery University of Pittsburgh Medical Center
1999 - Present	Director University of Pittsburgh Medical Center Neuroendovascular Surgery
1999 - Present	Associate Director University of Pittsburgh Medical Center Center for Cranial Nerve Disorders
1999 - Present	Advisory Board Member University of Pittsburgh Medical Center Stroke Institute
2000 - 2004	Associate Professor of Neurosurgery and Radiology University of Pittsburgh Medical Center Pittsburgh, PA
1999 - 2000	Visiting Associate Professor Neurosurgery and Radiology University of Pittsburgh Medical Center Pittsburgh, PA
1996-1999	Assistant Professor of Neurosurgery and Radiology University of Texas Southwestern Medical Center Dallas, TX
1995 - 1996	Instructor, Department of Neurosurgery and Radiology University of Texas Southwestern Medical Center Dallas, TX
1994 - 1995	Assistant Instructor Department of Neurosurgery and Radiology University of Texas Southwestern Medical Center Dallas, TX

## **CERTIFICATION AND LICENSURE**

### **Specialty Certification:**

American Board of Neurological Surgery Oral Examination	1998
National Board of Medical Examiners	1989
American Board of Neurological Surgery Written Examination	1993

### **Medical Licensure:**

Texas State Medical License	1995-Present
Medical Physician and Surgeon Commonwealth of Pennsylvania	1990-Present

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## **MEMBERSHIPS IN PROFESSIONAL AND SCIENTIFIC SOCIETIES**

American Society of Interventional and Therapeutic Neuroradiology (ASITN)- Active Member	1997-Present
AANS/CNS Section on Cerebrovascular Surgery	1997-Present
Congress of Neurological Surgeons	1998-Present
American Association of Neurological Surgeons	1998-Present

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## **AD HOC REVIEWER**

Neurosurgery  
American Journal of Neuroradiology  
Journal of Neuroimaging

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## PUBLICATIONS

### Refereed Articles:

1. **Horowitz MB**, Hall WA. Central nervous system germinomas: A review. *Arch Neurol* 1991; 48:652-657.
2. Pistoia F, Horton JA, Sekhar L, **Horowitz M**. Imaging of blood flow changes following angioplasty for treatment of vasospasm. *AJNR* May/June 1991; 12:446-448.
3. **Horowitz MB**, Pang D. Acute cerebellitis: A review of the literature and case report. *Pediatric Neurosurgery* 1991-1992; 17:142-145.
4. **Horowitz M**, Yonas H. The management of occipital neuralgia with selective intradural dorsal root sectioning. *Cephalalgia* 1993; 13:554-560.
5. **Horowitz M**, Yonas H. The management of a giant middle cerebral artery fusiform serpentine aneurysm with distal clipping and retrograde thrombolysis. *Surgical Neurology* 1994; 41:221-225.
6. **Horowitz M**, Moossy JJ, Julian T, Ferson P. Video assisted thoroscopic resection of thoracic disks. *Spine* 1994; 19:1082-1086.
7. **Horowitz M**, Jungreis CA, Quisling RG, Pollack I. Vein of Galen aneurysms: Current management concepts. *AJNR* 1994; 15:1486-1496.
8. Barr J, **Horowitz M**, Yonas H, Jungreis C, Horton J. Intraoperative selective catheterization and instillation of urokinase following carotid endarterectomy-associated MCA embolic occlusion. *Neurosurgery* 1995; 36:606-611.
9. **Horowitz M**, Kondziolka D. Multiple familial cavernous malformations evaluated over three generations with magnetic resonance imaging. *AJNR* 1995;16:1352-1355.
10. **Horowitz M**, Purdy P, Unwin H, Carstens G, Greenlee R, Hise J, Kopitnik T, Batjer H, Rollins N, Samson D. Treatment of cerebral dural sinus thrombosis using selective transvenous catheterization and urokinase infusion. *Annals of Neurology* 1995; 38:58-67.
11. **Horowitz M**, Comey C, Hirsch W, Marion D, Griffith B, Martinez J. Acute disseminated encephalomyelitis (ADEM) or ADEM-like syndrome in a heart-lung transplant recipient: A case report. *Neuroradiology* 1995; 37:434-437.
12. **Horowitz M**, Yonas H, Albright AL, Jungreis C, Kanal E. Management of moya moyo disease using stable Xenon blood flow. *Surgical Neurology* 1995; 44(3):251-262.
13. **Horowitz MB**, Miller G, Meyer Y, Carstens G, Purdy PD. Use of an intravascular stent in the treatment of internal carotid and extracranial vertebral artery pseudoaneurysms. *AJNR* 1996; 17:693-696.
14. Purdy PD, **Horowitz M**, Mathews D, Walker B, Carstens GJ, Batjer HH, Devous MD, White CL. Calcium-45 autoradiography and dual isotope SPECT imaging in a canine model of cerebral ischemia and middle cerebral artery occlusion. *AJNR* 1996; 17:1161-1170.
15. Carstens GJ, **Horowitz M**, Purdy PD, Pandaya A. Radiation dermatitis after spinal arteriovenous embolization: A case report. *Neuroradiology* 1996; 38:S160-S164.
16. **Horowitz M**, Fichtel F, Samson D. Intracavernous carotid artery aneurysms: The importance of angiographic dural waisting. *Surgical Neurology* 1996; 46:549-552.

17. **Horowitz M**, Samson D, Purdy P. Does acute electrothrombosis occur following Guglielmi Detachable Coil aneurysm embolization? Observations at surgery. *AJNR* 1997; 18:510-513.
18. **Horowitz M**, Purdy PD, Burns D, Bellotto D. Scanning electron microscopic findings in a successfully embolized human basilar tip aneurysm using the Guglielmi Detachable Coil system. *AJNR* 1997; 18:688-690.
19. D'Alise MD, Fichtel F, **Horowitz M**. Sagittal sinus thrombosis following minor head injury treated with continuous urokinase infusion. *Surgical Neurology* 1998;49:430-435.
20. **Horowitz MB**, Willet D, Keffer JH. The use of cardiac troponin-I (cTnI) to determine the incidence of myocardial ischemia and injury in patients with aneurysmal and presumed aneurysmal subarachnoid hemorrhage. *Acta Neurochirurgica*; 140:87-93, 1998.
21. **Horowitz MB**, Dutton K, Purdy PD. Assessment of complication types and rates related to diagnostic angiography and interventional neuroradiologic procedures: A 4 year review (1993-1996). *Interventional Neuroradiology*; 4:27-37, 1998.
22. **Horowitz MB**, Kopitnik TA, Landreneau F, Krumerman J, Thomas G, Batjer HH, Samson DS. Posterior inferior cerebellar artery aneurysms: Surgical results in 38 patients. *Neurosurgery*; 43:1026-1032, 1998.
23. **Horowitz MB**, Purdy PD, Kopitnik T. Subarachnoid hemorrhage during arteriovenous malformation embolization as a result of vessel wall "sandblasting". *Surgical Neurology* 50:403-7, 1998.
24. **Horowitz MB**, Kopitnik TA, Landreneau F, Ramnani DM, Rushing EJ, George G, Purdy PP, Samson DS. The multi disciplinary approach to traumatic intracranial aneurysms secondary to shotgun and handgun wounds. *Surgical Neurology* 51:31-42, 1999.
25. **Horowitz MB**, Purdy P, Kopitnik T, Dutton K, Samson D. Aneurysm re-treatment following Guglielmi detachable and non-detachable coil embolization: Report of nine cases and review of the literature. *Neurosurgery* 44:712-720, 1999.
26. **Horowitz MB**, Pride GL, Graybeal DF, Purdy PD. Percutaneous transluminal angioplasty and stenting of mid-basilar stenosis: Report of three cases and literature review. *Neurosurgery* 45(4):925-930, 1999.
27. Pride GK, **Horowitz MB**, Purdy PD. Endovascular problem solving with intravascular stents.. *AJNR* 21(3):532-540, 2000.
28. White JA, **Horowitz MB**. Dural waisting as a sign of subarachnoid extension of cavernous carotid aneurysms: A follow-up case report. *Surgical Neurology* 52 (6):607-9, 1999.
29. **Horowitz MB**, Purdy PD. The use of stents in the management of neurovascular disease: A historical and present status review. *Neurosurgery* 46:1335-1343, 2000.
30. **Horowitz MB**, Purdy PD, Valentine J, Morrill K. Remote vascular catastrophes following interventional therapy in Type 4 Ehlers-Danlos Syndrome. *AJNR* 21:974-976, 2000.
31. Levy EI, **Horowitz MB**, Jungreis CC, Cahill AM. Lingual artery embolization for severe uncontrollable post-operative tonsillar bleeding: Case report. *Ear, Nose and Throat* 80:208-211, 2001.
32. **Horowitz MB**, Levy EI. Endovascular management of wide necked aneurysms. *Contemporary Neurosurgery* 23(8):1-9, April 2001.

33. Levy E, **Horowitz MB**, Jungreis C, Pride GL, Dutton K, Purdy PD. Transluminal stent assisted angioplasty of the intracranial vertebrobasilar system for medically refractory posterior circulation ischemia: early results. *Neurosurgery* 48(6):1215-1223, 2001.
34. **Horowitz MB**, Levy EI, Koebbe C. Jungreis CC. Transluminal stent -assisted coil embolization of a vertebral confluence aneurysm: Technique report. *Surgical Neurology* 55:291-296, 2001.
35. Levy E, Koebbe CJ, **Horowitz M**, Jungreis C, Pride GL, Dutton K, Kassam A, Purdy PD. Rupture of intracranial aneurysms during endovascular coiling: Management and outcomes. *Neurosurgery* 49:807-813, 2001.
36. **Horowitz MB**, Kassam A, Nemoto E, Arimoto J, Jungreis C. An endovascular primate model for the production of a middle cerebral artery ischemic infarction. *Interventional Neuroradiology* 7:223-228,2001.
37. **Horowitz MB**, Albright AL, Jungreis C, Levy EI, Stevenson K. Endovascular management of a basilar artery false aneurysm secondary to endoscopic third ventriculostomy. *Neurosurgery* 49:1461-1465, December, 2001.
38. Koebbe C, **Horowitz MB**, Levy EI, Adelson D, Kassam A, Jungreis C. Endovascular particulate and alcohol embolization for near fatal epistaxis from a skull base vascular malformation. *Pediatric Neurosurgery* 35:257-261, 2001.
39. **Horowitz MB**, Kassam AK, Levy E, Lunsford LD. Misinterpretation of parahippocampal herniation for a posterior fossa tumor: Imaging and intraoperative findings. *J of Neuroimaging* 12:78-79, January 2002.
40. Kassam A, Carrau R, **Horowitz M**, Snyderman C, Hirsch BE, Welch WC. The Role of Fibrin Sealants in Cranial-Base Surgery. *Medscape Neurology & Neurosurgery*; February 2002. Available at: <http://www.medscape.com/viewprogram/1280>.
41. Levy EI, **Horowitz MB**, Koebbe C, Jungreis CC. Target specific trimodal endovascular management of carotid blowout syndrome: Case report. *ENT Journal* 81:115-118, 2002.
42. AB Kassam, Tyler-Kabara EC, **MH Horowitz**, L Urgo, C Hadjipanayis, EI Levy, YF Chang. Comparison of the results of surgical management of typical and atypical trigeminal neuralgia: Predictors of outcome for microvascular decompression. *J Neurosurgery* 96:527-531, 2002.
43. Patel A, Kassam AB, **Horowitz M**, Chang YF. Microvascular decompression in the management of glossopharyngeal neuralgia: An analysis of 217 cases. *Neurosurgery*50:705-711, 2002.
44. **Horowitz MB**, Levy EI, Kassam AB, Purdy PD. Endovascular therapy for intracranial aneurysms: A historical and present status review. *Surgical Neurology* 57:147-159, 2002.
45. **Horowitz MB**, Carrau R, Kanal E, Crammond D. The Risks of Tumor Embolization in the Presence of an Unrecognized Patent Foramen Ovale: Case Report. *AJNR*23:982-984, 2002.
46. **Horowitz M**, Whisnant R, Jungreis C, Snyderman C, Kassam A, Levy EI. Pre-operative embolization of carotid body tumor using temporary balloon occlusion and ethanol injection: Case report and review of the literature. *ENT Journal* 81:536-547, 2002.
47. **Horowitz M**, Jungreis C, Genevro J. Delayed Rupture of a Previously Coiled Unruptured Anterior Communicating Artery Aneurysm: Case Report. *Neurosurgery* 51:804-806, 2002.
48. Koebbe CJ, **Horowitz MB**, Levy EI, Jungreis C, Purdy PP. Intraarterial thrombolysis for thromboemboli associated with endovascular aneurysm coiling: Report of five cases. *Interventional Neuroradiology* 8:151-158, 2002.

49. **Horowitz M**, Jovin T, Welch W, Kassam A. Bow hunter's syndrome in the setting of contralateral vertebral artery stenosis: Evaluation and treatment. *Spine* 27:E495-498, 2002.
50. **Horowitz M**, Bansal S, Dastur K. Aortic Arch Origin of the Left External Carotid Artery and Type II Proatlantal Fetal Anastomosis: Case Report. *AJNR* 24(3):323-325, March 2003.
51. Koebbe C, **Horowitz MB**, Pless M, Levy EI, Jungreis CJ. Alcohol embolization of Carotid-Cavernous Indirect Fistulae. *Neurosurgery* May 2003 52(5):1111-1116.
52. Kassam AB, **Horowitz M**, Carrau R, Snyderman C, Welch W, Hirsch B, Chang YF. The Use of Tisseel Fibrin Sealant in Neurosurgical Procedures: Incidence of Cerebrospinal Fluid Leak and Cost Benefit Analysis. *Neurosurgery*, May 2003 52(5): 1102-1105.
53. Park HK, **Horowitz MB**, Jungreis C, Kassam A, Koebbe C, Genevro J, Dutton K, Purdy P. Endovascular treatment of paraclinoid aneurysms: Experience with 73 cases. *Neurosurgery* July 2003 53(1): 14-24.
54. **Horowitz MB**, Ramzipoor K, Nair A, Miller S, Rappard G, Spiro R, Purdy P. Experimental third ventriculostomy performed using endovascular surgical techniques and their adaption to percutaneous intradural neuronavigation (PINS). *Neurosurgery* August 2003 53(2): 387-391.
55. Jungreis CA, Nemoto E, Boada F, **Horowitz MB**. Model of Reversible Cerebral Ischemia in a Monkey Model. *AJNR*, October 2003 24:1834-186.
56. **Horowitz MB**, Crammond D, Balzer J, Jungreis C, Kassam AB. Aneurysm Rupture During Endovascular Coiling: Effects on Cerebral Transit Time and Neurophysiologic Monitoring and the Benefits of Early Ventriculostomy. *Minimally Invasive Neurosurgery* October 2003 46(5):300-305.
57. Kapoor V, Rothfus WE, Grahovac SZ, Kassam A, **Horowitz MB**. Refractory occipital neuralgia-Preoperative assesment with CT- guided nerve block prior to dorsal cervical rhizotomy. *AJNR*, *Am J Neurodiol*, November-December 2003 24 (10):2105-10.
58. Harris AE, Beckner ME, Barnes L, Kassam AB, **Horowitz MB**. Giant cell tumor of the skull. *Neurosurgery: A Case Report and Review of the Literature*. *Surg Neurol*, March 2004:274-277.
59. Koebbe C, **Horowitz MB**. A Rare Case of a Ruptured Middle Meningeal Aneurysm Causing Intracerebral Hematoma in a Patient with Moyamoya Disease. *AJNR*, April 2004:25; 574-576.
60. **Horowitz MB**, Jovin TG, Gebel JM. Therapeutic basilar artery occlusion for medically refractory basilar artery stenosis: Case Report. *Neurosurgery* 54:1253-1257, May 2004.
61. Kassam A, Nemoto EM, Balzar J, Rao GR, Welch WC, Boada F, Kuwabara H, **Horowitz M**. Assessment of the toxicology of Tisseel fibrin glue on the central nervous system of the non-human primate. *ENT*, April 2004;83(4); 246-256
62. Engh J, Kassam A, Burkhart L, **Horowitz M**. Early and Late Reoperation for Hemifacial Spasm: An Analysis of 41 Microvascular Decompressions." *Skull Base: An Interdisciplinary Approach*, Vol. 14, Supplement 1, February 2004
63. Kassam AB <sup>CA</sup>, **Horowitz M**, Chang YF, Peters DG. Altered Arterial Homeostasis and Cerebral Aneurysms (Part I): A review of the literature and justification for a molecular biomarker search. *Neurosurgery* May 2004; 54(5): 1199-1212.
64. Kassam AB, **Horowitz M**, Chang Y, Peters DG. Altered Arterial Homeostasis and Cerebral Aneurysms (Part II): A preliminary molecular epidemiology study. *Neurosurgery* 54:1199-1212, June 2004.

65. Simental A, Johnson JT, **Horowitz M**. Management of carotid artery blow out with endovascular stenting in two cases of head and neck malignancy and cervical infection: delayed complications. *American Journal of Otolaryngology* 24:417-419, 2003.
66. **Horowitz MB**, Horowitz M, Ochs M, Carrau R, Kassam AB. Trigeminal Neuralgia and Glossopharyngeal Neuralgia. *JADA* 135: 1427-1433, 2004.
67. Crago E, Kerr M, Yuan Kong, Baldisseri M, **Horowitz M**, Yonas H, Kassam A. The impact of cardiac dysfunction on outcome in the SAH population. *Acta Neurologica* 110:248-253, 2004.
68. Capitano B, Niclau DP, Potoski BA, Byers K, **Horowitz M**, Venkataramanan R, Paterson DL. Meropenem administered as a prolonged infusion to treat gram-negative central nervous system infections. *Pharmacotherapy*, June 2004; 24 (6): 803-807.
69. Levy E, **Horowitz M**, Jovin T, Kassam A. Successful management of post tumor resection middle cerebral artery thrombosis with angioplasty/stenting and low dose intrarterial/intravenous IIb/IIIa inhibitor infusion: Case report. *Neurosurgery* 55 (3): E732-E737, September 2004
70. **Horowitz MB**, Levy E, Hathaway B, Jovin T, Hirsch B. Endovascular treatment of a petrous internal carotid artery aneurysm presenting with hemotympanum and epistaxis using a coronary stent and detachable platinum coils: Case report. *Archives of Otolaryngology- Head and Neck Surgery* 131; 61-63, January 2005.
71. Park HK, **Horowitz MB**, Jungreis C, Genevro J, Koebe C, Levy E, Kassam AB. Periprocedural Morbidity and Morality Associated with Endovascular Treatment of Intracranial Aneurysms. *AJNR* 26:506-514, 2005.
72. King JT, **Horowitz MB**, Kassam AB, Yonas H, J, Roberts M. Validity and Reliability of the SF-12 for the Measurement of Health Status in Patients with Cerebral Aneurysms. *J Neurosurg* 102:489-494, 2005
73. King JT, Yonas H, **Horowitz M**, Kassam AB, Roberts M. Failure of communication between patients with cerebral aneurysms and neurosurgeons. *Journal Neurology, Neurosurgery, and Psychiatry*: 76; 550-554, March 2005.
74. Chang WM, **HorowitzMB**, Stetten GD. Intuitive intra-operative ultrasound guidance using the Sonic Flashlight: A novel ultrasound display system. *Neurosurgery* 56/ONS-434-ONS-437, 2005.
75. Nemoto EM, Jungreis CA, Larnard D, Kuwabara H, **Horowitz M**, Kassam A: Hyperthermia and hypermetabolism in focal cerebral ischemia. *Adv. Exp. Med*, 566: 83-90, 2004.
76. **Horowitz M**, Levy E, Sharts M, Albright AL, Pollack I. Endovascular management of ventricular induced anterior cerebral artery false aneurysm in a 3 week old child with myelomeningocele. *Neurosurgery* 57:374, 2005.
77. **Horowitz MB**, Gupta R, Jovin T. The dual catheter technique for coiling wide necked cerebral aneurysms: An under reported method. *Interventional Neuroradiology* 11:155-160, 2005.
78. Engh JA, **Horowitz M**, Burkhart L, Chang YF, Kassam A. Repeat microvascular decompression for hemifacial spasm. *Journal of Neurology, Neurosurgery and Psychiatry* 76: 1574-1580; 2005
79. **Horowitz M**, Jovin T, Levy E, Anderson W. Emergent basilar artery and bilateral posterior cerebral artery angioplasty, urokinase/IIb/III inhibitor thromboysis, and stenting for acute basilar artery occlusion secondary to diagnostic cardiac catheterization: Case report. *Journal of Neuroimaging* 15:315-318, 2005.
80. King JT, Kassam AB, **Horowitz MB**, Yonas H, Tsevat J, Roberts M. Mental Health, Anxiety, and Depression in Patients with Cerebral Aneurysms. *J. Neurosurg* 103:636-641, 2005.



81. Gupta R, **Horowitz MB**, Tayal A, Jovin T. De Novo Development of a remote Arteriovenous Fistula Following Cavernous Trans-Arterial Embolization of a Carotid Cavernous Fistula: Case Report and Review of the Literature. *AJNR* 26:2587-2590, 2005
82. Kassam A, **Horowitz MB**, Welch W, Sciabassi R, Carrau R, Snyderman C, Hirsch B. The role of endoscopic assisted microneurosurgery (Image Fusion technology) in the performance of neurosurgical procedures. *Minimally Invasive Neurosurgery* 48:1991-196, 2005
83. Tudor G, Gupta R, Uchino K, Jungreis CA, Wechsler LR, Hammer MD, Tayal A, **Horowitz MB**. Emergent stenting of extra-cranial carotid artery occlusion in acute stroke has a high revascularization rate. *Stroke* 36:2426-2430, 2005.
84. Gupta R, Yi HJ, Jovin TG, **Horowitz MB**. Three unusual arteriovenous fistulas presenting in young children successfully treated with trans-arterial endovascular embolization. *Pediatric Neurosurgery*. 2005; 41 (6):328-333.
85. Zimmer LA, Hirsch BE, Kassam A, **Horowitz M**, Snyderman CH. Resection of a recurrent glomus jugulare via an endoscopic, transnasal, transclival, transpetrous approach to the jugular fossa. *Otology and Neurotology* 27 (3): 398-402, April 2006.
86. **Horowitz M**, Levy E, Florio F, Bonaroti E. Cavernous carotid origin aneurysm rupture with intracerebral intraparenchymal hemorrhage 11 years following treatment of a traumatic Barrow Type A cavernous carotid artery fistula: Case report. *AJNR*; March 2006; 27:524-526
87. Gupta R, Jovin TG, **Horowitz MB**. Urgent stenting of the M2 (superior) division of the middle cerebral artery after systemic thrombolysis in acute stroke; Case report. *AJNR* March 2006; 27:521-523
88. **Horowitz M**, Levy E, Genevro J, Bonaroti G, Jovin T. Intra/extra-aneurysmal stent placement for management of a wide necked and complex bifurcation aneurysms: Eight cases using the waffle cone technique. *Neurosurgery* April 2006; 58: 258-262
89. Levy EI, Ecker RD, **Horowitz MB**, Gupta R, Hanel RA, Sauvageau E, Jovin TG, Guterman LR, Hopkins LN. Stent assisted intracranial recanalization for acute stroke: early results. *Neurosurgery* 2006; 58 (3):458-463.
90. Singhal D, Sheehan J, Flickinger JC, Jungreis CA, **Horowitz M**, Kondziolka D, Lunsford LD. Clinical outcomes after radiosurgery for dural arteriovenous fistulas. *Neurosurgery* (in press Nov 05)
91. Gupta R, **Horowitz M**, Gilman S. Neuroform stent assisted reconstruction and coil embolization of a ruptured A1 segment anterior cerebral artery aneurysms. *J Neuroimaging*; April 2006; 16 (2): 117-119.
92. Thomas A, Gupta R, Tayal A, **Horowitz M**, Jovin T. Stenting and Angioplasty of the Symptomatic Chronically Occluded Carotid Artery: Report of Two Cases. *AJNR* January 2007; 28: 168-171.
93. **Horowitz MB**, Gupta R, Gologorsky Y, Sandhu E. Jovin T, Yi HJ, Genevro J, Levy E, Kassam A. Clinical and anatomic outcomes following endovascular coiling of middle cerebral artery aneurysms: Report on 30 treated aneurysms and review of the literature. *Surgical Neurology*. July 2006 66:167-171.
94. Yi HJ, Gupta R, Jovin T, Tayal A, Genevro J, Gologorsky Y, **Horowitz M**. Initial Experience with the use of Intravenous Eptifibatide Bolus during Endovascular Treatment of Intracranial Aneurysms. *AJNR*. October 2006 27:1856-1860.
95. Gupta R, Vora NA, **Horowitz MB**, Tayal AH, Hammer MD, Uchino K, Wechsler LR, Jovin TG. Multimodal reperfusion therapy for acute ischemic stroke: factors predicting vessel recanalization. *Stroke*. 2006 37: 986-990.

96. Gupta R, Thomas A, **Horowitz MB**. Intracranial Head and Neck Tumors: Endovascular Considerations, Present and Past. *Neurosurgery* 59:251-260 November 2006.
97. Stippler M, Crago E, Levy EI, Kerr ME, Yonas H, **Horowitz MB**, Kassam A. Magnesium infusion for vasospasm prophylaxis after subarachnoid hemorrhage. *J of Neurosurgery* 105: 723-729 November 2006.
98. Gupta R, Firas A, Thomas AJ, **Horowitz MB**, Barrow T, Vora NA, Uchino K, Hammer MD, Wechsler LR, Jovin TG. Safety, feasibility, and short term follow-up of drug eluting stent placement in the intra- and extracranial circulation. *Stroke*. September 2006;37:2562-2566.
99. Kassam AB, Thomas A, Zimmer LA, Snyderman CH, Carrau RL, Mintz A, **Horowitz M**. Expanded Endonasal Approach: A Fully Endoscopic Completely Transnasal Resection of a Skull Base Arteriovenous Malformation. *Child Nervous System* 106:75-86 February 2007
100. King JT, **Horowitz MB**, Bissonette DJ, Tsevat J, Roberts MS. What Do Patients with Cerebral Aneurysms Know About Their Condition? *Neurosurgery* 58(5) 824-830 May 2006.
101. Gupta R, Yonas H, Gebel J, Goldstein S, **Horowitz MB**, Grahovac SZ, Wechsler LR, Hammer MD, Uchino K, Jovin T. Reduced Pretreatment Ipsilateral Middle Cerebral Artery Cerebral Blood Flow Is Predictive of Symptomatic Hemorrhage Post-Intra-Arterial Thrombolysis in Patients With Middle Cerebral Artery Occlusion. *Stroke* 37: 2526-2530 September 2006.
102. Jovin T, Gupta R, **Horowitz MB**. Management of Symptomatic Intracranial Artherosclerotic Disease. *Current Cardiology Reports*.2007
103. Vora NA, Gupta R, Thomas AJ, **Horowitz MB**, Tayal AH, Hammer MD, Uchino K, Wechsler LR, Jovin TG. Factors predicting hemorrhagic complications after multimodal reperfusion therapy for acute ischemic stroke. *AJNR* 28:1391-94 August 2007
104. Levy EI, Mehta R, Gupta R, Hanel RA, Chamczuk AJ, Fiorella D, Woo HH, Albuquerque FC, Jovin TG, **Horowitz MB**, Hopkins LN. Self-Expanding Stents for Recanalization of Acute Cerebrovascular Occlusions. *AJNR* 28: 816-822 May 2007.
105. Gupta R, Vora N, Thomas AJ, Crammond D, Roth R, Jovin T, **Horowitz M**. Symptomatic cerebral air embolism during neuro-angiographic procedures: Incidence and problem avoidance. *Neurocritical Care* (2007) 7:241-246
106. Vora N, Thomas A, Germanwala A, Jovin T, **Horowitz M**. Retrieval of a displaced detachable coil and intracranial stent with a L5 Merci Retriever during endovascular embolization of an intracranial aneurysm. *J of Neuroimaging* 18: 81-84 January 2008.
107. Gupta R, Thomas AJ, Masih A, **Horowitz MB**. Treatment of Extracranial Carotid Artery Pseudoaneurysms with Stent Grafts: Case Series. *Journal of Neuroimaging*; 18(2): 180-183, April 2008.
108. Germanwala A, Vora N, Thomas A, Jovin T, Golgorsky Y, **Horowitz MB**. EthyneVinylAlcohol Copolymer (onyx-18) used in Endovascular Treatment of Vein of Galen Aneurysmal Malformation. *Childs Nervous System*. (2008) 24:135-138.
109. Vora NA, Germanwala AV, Thomas AJ, **Horowitz MB**, Jovin TG. Endovascular Management of a Traumatic Ophthalmic Artery Aneurysm. *The Journal of Trauma Injury, Infection and Critical Care*. (192-194)July 2007.
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139. Lin R, Jankowitz B, Aleu A, Kostov D, Lee K, Jovin T, **Horowitz M**, Huen A, Gehris R. Sinus Pericranii: A Case Report and Literature Review. *Journal of Neuroimaging* (accepted, in press 9/10)
140. Lin, R, Aleu A, Jankowitz B, Kostov D, Kanaan H, **Horowitz M**, Jovin T. Endovascular Revascularization of Chronic Symptomatic Vertebrobasilar Occlusion. *J Neurosurgery* (accepted, in press 10/10)
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148. Kanaan H, Kostov D, Shah A, Lin R, Grandhi R, Bonfield C, Jovin T, Jankowitz B, Horowitz M. Safety and Efficacy of Percutaneous Femoral Artery Access and Vascular Closure Devices in Cerebral Neurovascular Procedures: a Single-Center Analysis. Submitted to AJNR, 2011.
149. Habeych, ME, Shah AC, Nikonow TN, Balzer JR, Crammond DJ, Thirumala PD, Kassam A, Horowitz M. Effect of Botulinum Neurotoxin Treatment in the Lateral Spread of Monitoring of Microvascular Decompression for Hemifacial Spasm. Muscle & Nerve. August 2011
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151. Jumma MA, Aghebrahim A, Zaidi SF, Jankowitz B, Jovin TG, **Horowitz MB**. Is Head CT necessary after uncomplicated coiling of unruptured Intracranial Aneurysms? Journal of Neuroimaging 2012.

#### OTHER PUBLICATIONS

#### **Invited Articles**

1. **Horowitz MB.** Brainstem compression as a cause of neurogenic hypertension. *Dallas Medical Journal* 85(6):260-264, 1999.
2. **Horowitz MB,** Mickey B, Halliday A, Giller C. Clinical update in neurosurgery. *Dallas Medical Journal* 85(6):253-259, 1999.
3. **Horowitz MB.** Brainstem compression as a cause of neurogenic hypertension. *Current Hypertension Reports. Secondary Hypertension: Adrenal and Nervous System Mechanisms* 3:264-267, 1999.
4. **Horowitz M,** Spiro R, Purdy P, Jungreis C, Levy E., Kassam A. Meningioma Embolization. *Contemporary Neurosurgery* 23(21):1-6, 2001.
5. Levy EI, Boulos AS, Bendok BR, **Horowitz MB,** Kim SH, Qureshi AI, Guterman LR, Hopkins LN. Intracranial stenting for cerebrovascular pathology. *Contemporary Neurosurgery* 23:1-10, December, 2001.
6. Koebbe C, **Horowitz MH,** Jungreis C, Dutton K, Park H, Purdy PD. . Endovascular coiling of anterior communicating artery aneurysms: A review of clinical and angiographic outcomes. *Contemporary Neurosurgery.* 25:1-6, July 2003.
7. Gupta R, Jovin TG, **Horowitz MB.** Hemodynamic Instability After Carotid Artery Stenting: A Review of the Literature. *Neurosurgical Focus* 18(1):E6, January 2005.

#### **Submitted Journal Articles:**

1. Tanabe, M., Crago, E., Suffoletto, M., Hravnak, M., Kassam, A., **Horowitz, M.,** Gorcsan, J. Relation of Elevation in Cardiac Troponin-I to Clinical Severity, Cardiac Dysfunction and Pulmonary Congestion in Patients with Aneurysmal Subarachnoid Hemorrhage. *American Journal of Cardiology.* (In press)
2. Frangiskakis, J.M. Hravnak, M., Crago, E., Tanabe, M., Kip, K., Gorcsan, J., Kassam, A., **Horowitz, M.,** & London, B. The S49  $\beta$ 1-adrenergic receptor polymorphism predicts arrhythmia after subarachnoid hemorrhage. *Brain* (submitted)
3. Sherwood, P., Crago, E., Ren, D., Hricik, A., Kuo, J., Klamerus, M., Thampatty, B., Alexander, S., Gallek, M., Bender, C., Hoffman, L., **Horowitz, M.,** Kassam, A., Poloyac, S. Cerebrospinal Fluid Endothelin-1 Concentrations are Predictive of Learning and Memory Outcomes in Patients with Aneurysmal Subarachnoid Hemorrhage. *Stroke* (Submitted)
4. Gallek, M., Crago, E., Klamerus, M., Ren, D., Alexander, S., Sherwood, P., Henker, R., **Horowitz, M.,** Kassam, A., Poloyac, S. Endothelin-1 Cerebrospinal Fluid Levels are Associated with the Development of Cerebral Vasospasm in Aneurysmal Subarachnoid Hemorrhage Patients. *Neurosurgery* (Submitted)
5. Poloyac, **Horowitz MB.** Endothelin-1 is Paradoxically Predictive of Poor Learning and Memory Outcomes in Patients with Aneurysmal Subarachnoid Hemorrhage. *Journal of Neurosurgery* (submitted 12/09)
6. Singleton R, Kostov D, Kanaan H, **Horowitz M.** Benign Perimesencephalic Hemorrhage Occurring After Previous Aneurysmal Subarachnoid Hemorrhage. *Stroke* (submitted 11/09)
7. Habeych ME, Shah AC, Nikonow TN, Balzer JR, Crammond DJ, Thirumala PD, Kassam A, **Horowitz M.** Effect of botulinum neurotoxin in the lateral spread monitoring of microvascular decompression for hemifacial spasm. *Muscle and Nerve Journal.* (submitted 1/2010)

8. Singleton R, Kostov D, Kanaan H, **Horowitz M**. Benign Perimesencephalic Hemorrhage Occurring After Previous Aneurysmal Subarachnoid Hemorrhage. (submitted)
9. Kantor E, Bayir HB, Ren D, Provencio JP, Crago E, **Horowitz MB**, Ferreoll R, Conely YP, Alexander SA. Haptoglobin Genotype and Functional Outcome after Aneurysmal Subarachnoid Hemorrhage.
10. Jankowitz B, Aghaebrahim A, Zirra A, Spataru O, Zaidi S, Jumaa M, Ruiz-Ares G **Horowitz M**, Jovin T. Manual Aspiration Thrombectomy (MAT) Adjunctive Endovascular Recanalization Technique in Acute Stroke Interventions. Stroke. (Submitted 1/12)
11. Shah A, Nikonow T, Thirumala P, Hirsch B, Chang Y, Gardner P, Balzer J, Habeych M, Crammond D, Burkhart L, **Horowitz M**. Hearing Outcomes Following Microvascular Decompression for Hemifacial Spasm. Clinical Neurology and Neurosurgery. (Submitted 1/12)
12. Kantor, E, Bayir H, Ren D, Provencio JJ, Watkins L, Crago E, **Horowitz MB**, Ferrell RE, Conley YP, Alexander SA. Haptoglobin Genotype and Functional Outcome after Aneurysmal Subarachnoid Hemorrhage. Neurocritical Care. (Submitted 3/12)
13. Wang, XH, Thirumala P, Shah A, Gardner P, Habeych M, Crammond D, Balzer J, Burkhart L, Horowitz M. Microvascular Decompression for Hemifacial Spasm: Focus on Late Reoperation. Journal of Neurosurgery. (Submitted 7/12)

#### **Published Abstracts regarding RO1 Grant**

Crago E, Hravnak M, Kong Y, Sherwood P, Horowitz M. (2005) Relationship of catecholamines on markers of myocardial ischemia in patients with subarachnoid hemorrhage. Critical Care Medicine, 23, [12 Suppl], A 102.

Tanabe M, Horowitz MB, Cannesson M, Hravnak M, Crago EA, Gorscan J. (2006). The relationship between regional left ventricular wall motion and troponin-I levels in patients with subarachnoid hemorrhage: Journal of American College of Cardiology, 47, 368A.

Hravnak M, Crago C, Horowitz M. (2006) Prevalence of electrocardiographic abnormalities in patients with subarachnoid hemorrhage. American Journal of Critical Care, 15, 324.

Hravnak M, Crago C, Horowitz M. (2006) Prolonged QT interval after aneurysmal subarachnoid hemorrhage. Critical Care Medicine, 34 [12 Suppl]:A81

Tanabe M, Crago EA, Hravnak M, Horowitz MB, Gorscan J. (2007) Relationship of mild troponin-I elevations to cardiac function and pulmonary congestion in patients with subarachnoid hemorrhage. Journal of American College of Cardiology, 49 [Suppl. 1], 322A

Tanabe M, Crago EA, Hravnak M, Horowitz MB, Gorscan J. (2007) Relationship of Acute Cardiac Dysfunction with Clinical Severity of Subarachnoid Hemorrhage: Results from the SAHMII Study. Journal of American College of Cardiology, 49 [Suppl. 1], 338A.

Frangiskakis, JM, Tanabe M, Hravnak M, Crago EA, Gorscan J, Horowitz MB, London B. (2007) The MinK G38S polymorphism associates with atrial arrhythmias after subarachnoid hemorrhage. Circulation; 116, II-521.

Hravnak M, Crago, Miketic J, Chang Y, Horowitz MB. (2007) Admission Serum Glucose and Outcomes in Patients with Subarachnoid Hemorrhage. Critical Care Medicine, 35, Suppl A12.

Crago E, Sherwood P, Hricik A, Hravnak M, Bender C, Chang Y, Horowitz M, Kassam A. (2007) The relationship between myocardial dysfunction and 12 month neuropsychological outcomes in patients following aneurysmal subarachnoid hemorrhage. Critical Care Medicine, 35, Suppl A204.

Hravnak M, Frangiskakis M, Crago E, Gallek MJ, Chang Y, Horowitz MB. Elevated cardiac troponin I and electrocardiographic and echocardiographic abnormalities after aneurysmal subarachnoid hemorrhage. *Intensive Care Medicine*, Volume 34, Supplement 1/September, 2008; page S116. (Oral presentation at European Society Intensive Care Medicine, Lisbon, Portugal; Sept 2008)

Hravnak M, Frangiskakis JM, Crago E, Chang Y, Gorscan J, Horowitz MB. Relationship between left ventricular wall motion abnormalities and markers of neurocardiac injury in patients with aneurysmal subarachnoid hemorrhage. *2008 Critical Care Medicine*, 36(12 Supplement):A10. (oral presentation at Society of Critical Care Medicine 37<sup>th</sup> Congress, 2009, Nashville TN. Winter of 2009 Annual Scientific Award (top 10 scoring abstracts))

Hravnak M, Frangiskakis JM, Poloyac S, Yao J, Crago E, Thampatty P, Chang Y, Gorscan J, Horowitz M. Relationship between catecholamines and neurocardiac injury in patients with aneurysmal subarachnoid hemorrhage. *Critical Care Medicine*, 37(12 Supplement): Axx.

#### **Text Books Authored or Edited:**

1. **Horowitz M**, Levy E. (Editors) *Progress in Neurological Surgery: Neuroendovascular Surgery*. S. Karger AG, Switzerland, 2005.

#### **Book Chapters:**

2. **Horowitz M**, Jungreis C, Quisling RG, Pollack I. Vein of Galen Aneurysms. *In Cerebrovascular Disease*. H. Hunt Batjer (Editor). Raven Press. New York. 1996. pp 823-832.
3. **Horowitz M**, Greenlee R, Purdy P. Acute and Chronic Dural Sinus Thrombosis. *In Cerebrovascular Disease*. H. Hunt Batjer (Editor). Raven Press. New York. 1996. pp 559-572.
4. Kopitnik TA, **Horowitz M**, Samson DS. Management of Subarachnoid Hemorrhage. *In Neurological Emergencies. Second Edition*. Chapter 8. RAC Hughes (Editor). BMJ Publishing Group. London. pp. 188-224. 1997.
5. **Horowitz M**, Kopitnik TA, Samson DS. Management of Subarachnoid Hemorrhage. *In Neurological Emergencies. Third Edition*. RAC Hughes (Editor). BMJ Publishing Group. London. (in press)
6. **Horowitz MB**, Kopitnik TA, Samson DS. Surgical Management of Brainstem Cavernomas. *In Neurosurgical Operative Color Atlas*. SS Rengachary (Editor). AANS/Williams and Wilkins, 1999 (in press)
7. **Horowitz MB**, Samson DS, Kopitnik TA. Basilar Tip Aneurysms. *In Atlas of Neurosurgical Techniques*. L Sekhar and R. Fessler (Editors). Thieme, 1999 (in press).
8. Kopitnik TA, **Horowitz MB**, Samson DS. Surgical management of intraoperative aneurysmal rupture, in Schmideck HH, Sweet WH (eds): *Operative Neurosurgical Techniques: Indications, Methods, and Results*. W.B. Saunders Co., Philadelphia (in press).
9. Kopitnik TA, **Horowitz M**, Samson DS. Reoperation for residual/recurrent aneurysms of the basilar apex, in Fisher WS (ed): *Perspectives in Neurological Surgery*, Thieme Medical Publishing, Inc, New York.
10. Kopitnik TA, **Horowitz M**, Samson DS. Surgical resection of AVMs of the posterior fossa, in Rengachary SS, Wilkins RH eds): *Neurosurgical Operative Atlas*, AANS, Park Ridge, Illinois.



11. Kassam AB, **Horowitz M**, Jannetta PJ. Microvascular Surgery for Cranial Nerves V, VII, and VIII. In Atlas of Neurosurgical Techniques (in press)
12. Kassam AB, **Horowitz M**, Jannetta PJ. Microvascular Surgery for Cranial Nerves IX, X, and XII. In Atlas of Neurosurgical Techniques (in press)
13. Kassam AB, **Horowitz M**. Posterior Fossa Surgery for Cranial Nerve Disorders Neurosurgical Pain Management (in press)
14. **Horowitz MB**, Kassam AB. Microvascular Compression- Diagnosis, Medical Management, and Surgical Management in Dizziness. In Essentials of Otology and Neurotology (in press)
15. Kassam AB, Peters D, **Horowitz M**. Molecular Pathogenesis of Cerebral Aneurysms: Current Concepts and Future Directions. In: Pinsky MR (ed.), Springer. Update in Intensive Care and Emergency Medicine, Vol. 37, Chapter 4, pp 26-41 (2002).
16. **Horowitz M**, Purdy, P. The Use Of Stents In The Management Of Neurovascular Disease: A Historical And Present Status Review. Progress in Neurological Surgery: Neuroendovascular Surgery. Vol. 17, S. Karger AG, Switzerland., 2005, 18-32
17. **Horowitz M**, Levy E, Kassam A, Purdy P. Endovascular Therapy for Intracranial Aneurysms: A Historical and Present Perspective. Progress in Neurological Surgery: Neuroendovascular Surgery. Vol. 17, S. Karger AG, Switzerland., 2005, 101-121.
18. **Horowitz M**, Levy E. Endovascular Management Of Wide-Necked Aneurysms. Progress in Neurological Surgery: Neuroendovascular Surgery. Vol. 17, S. Karger AG, Switzerland , 2005, 122-134
19. Levy E, Spiro R, **Horowitz M**. Tumor Embolization. Progress in Neurological Surgery: Neuroendovascular Surgery. Vol. 17, S. Karger AG, Switzerland, 2005, 180-193.
20. **Horowitz M**, Greenlee R, Purdy P. Acute And Chronic Venous Sinus Thrombosis. Progress in Neurological Surgery: Neuroendovascular Surgery. Vol. 17, S. Karger AG, Switzerland.,2005, 194-215.
21. **Horowitz M**, Jungreis C, Quisling R, Pollack I. Vein Of Galen Aneurysms: A Review and Current Perspective. Progress in Neurological Surgery: Neuroendovascular Surgery., Vol. 17 S. Karger AG, Switzerland. 2005, 216-231
22. **Horowitz M**, Levy E, Genevro J, Kassam AB, Burgura B. Petrosal Sinus Sampling For Cushing's Disease. Progress in Neurological Surgery: Neuroendovascular Surgery. Vol. 17, S Karger AG, Switzerland, 2005, 232-237
23. Yi HJ, **Horowitz, M**. Microsurgical and Endovascular Treatment of Giant Intracavernous Aneurysms. In Operative Nuances, Robert Spetzler (Editor) (In Press)
24. Gologorsky Y, **Horowitz MB**, Jungreis CA, Quisling RG, Pollack I. Vein of Galen Aneurysms: A Review and Current Perspective. In Neurosurgical Operative Atlas 2E: Vascular Neurosurgery. R. Loch Macdonald (Editor). Thieme, 2008, 163-70.
25. Engh JA, Kassam AB, **Horowitz M**, Balzer J, Lee JYK. Microvascular decompression of the seventh cranial nerve. pp. 1385-1392. In Myers EN (ed): Operative Otolaryngology-Head and Neck Surgery, 2nd Edition. Elsevier, Philadelphia, 2008.

26. Tomyecz ND, Horowitz MB. Inferior Petrosal Sinus Sampling in the Diagnosis of Sellar Neuropathology for Neurosurgery Clinics: Interventional Radiology
  27. Ed Rosenwasser, Robert. (submitted 9/08)
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## PROFESSIONAL ACTIVITIES

### Presentations/Invited Lectures:

1. Survival of patient with brain aspergillosis following liver transplantation: A role for ABCD (Amphotericin B Colloidal Dispersion) and Excision. Segal R, **Horowitz MB**. The American Association of Neurological Surgeons Meeting, San Diego, CA, 1994.
2. Management of Moyamoya disease using stable Xenon-CT blood flow. **Horowitz MB**, Yonas H. Fourth International Workshop on Cerebrovascular Surgery, Chicago, IL, 1995.
3. The medical, surgical, and interventional neuroradiologic management of subarachnoid hemorrhage. **Horowitz MB**. Texas Association of Neurological Surgeons, Dallas, Texas, 1995.
4. Interesting neuroradiologic cases. **Horowitz MB**. Diagnostic Radiology Update, Dallas, Texas, 1995.
5. Complex conformational coils using nickel titanium alloy and possible application in interventional neuroradiology. Purdy P, **Horowitz MB**. 34th Annual Meeting of the American Society of Neuroradiology, Seattle, June 1996.
6. Neurovascular anatomy and interventional neuroradiology and its clinical applications. **Horowitz MB**. Micro Interventional Systems, Inc., Training Seminar, 1996.
7. Incidence of unsuspected blunt carotid artery injury. Panel discussant. AANS Annual Meeting, Denver, CO, 1997.
8. An aneurysm scoring index as a predictor of clinical outcome. Purdy P, **Horowitz M**, Kopitnik T, Batjer H, Thomas J, Clamp SJ, McIntire D, Samson D. American Society of Interventional and Therapeutic Neuroradiology Meeting, New York, NY, 1997.
9. GDC treatment of intracranial aneurysms and fistulas. American Association of Neuroscience Nurses. Dallas, Texas, May 1997.
10. Management of intracranial hemorrhage following thrombolytic therapy. American Academy of Neurology Acute Stroke Management Workshop. Dallas, Texas, June 1997.
11. Management of subarachnoid hemorrhage. American Academy of Neurology Acute Stroke Management Workshop. Dallas, Texas, June 1997.
12. Evaluation and management of subarachnoid hemorrhage. Continuing Medical Education Series. St. Paul Hospital. Dallas, Texas, June 1997.
13. Current Management of Cerebral Aneurysms. Coiling and clipping. One surgeon's view. University of Mississippi. Jackson, Mississippi, October 1997
14. Aneurysms and subarachnoid hemorrhage. Journey Through the Nervous System: A Look at Today's Neuroscience Nursing. UT Southwestern Medical School at Dallas, Dallas, TX, October 1997.
15. Endovascular management of intracranial aneurysms. University of Pittsburgh Medical Center, Pittsburgh, PA, February 1998.

16. Discussant for "Late Angiographic Follow-up of Surgically Treated Aneurysms: Recurrence, De Novo Formation, and the Fate of Residuals. AANS Annual Meeting, Philadelphia, April, 1998.
17. Panelist for Posterior Circulation Aneurysms. AANS Annual Meeting, Philadelphia, April 1998.
18. Management of Intracranial Aneurysms Secondary to Gunshot Wounds to the Head. Meeting of the Southern Neurosurgical Society, Hot Springs, WV, June 1998.
19. Moderator, Complications of Endovascular Aneurysm Treatment. 11<sup>th</sup> Annual Interventional Neuroradiology Peer Review Conference, Jackson Hole, Wyoming, July, 1998.
20. Visiting Professor Lecturer, Department of Neurosurgery University of Illinois, Chicago, Illinois, August 11-12, 1998.
21. Instructor for Practical Course on Interventional Techniques. CNS Annual Meeting, Seattle, October, 1998.
22. Current Surgical Management of Anterior Communicating Artery Aneurysms. Dexter M, **Horowitz M**, Kopitnik T, Samson D. CNS Annual Meeting, Seattle, October, 1998.
23. Radial Artery Interposition Grafts for Middle Cerebral Artery Reconstruction: A Series of Seven Cases. Samson D, Dexter M, **Horowitz M**, Kopitnik T. CNS Annual Meeting, October, 1998.
24. Endovascular Neurosurgery. Surgical Grand Rounds. UT Southwestern Medical Center, Dallas, Texas. February 3, 1999.
25. Cerebral Aneurysms: Advances in Surgical Management. Texas Academy of Physician Assistants 24<sup>th</sup> Annual Primary Care Conference. Dallas, Texas. March 13, 1999.
26. Instructor for Basic Endovascular Techniques. AANS Annual Meeting, New Orleans, April, 1999.
27. Large and Giant Aneurysms of the Vertebrobasilar System. Duke Samson, Thomas Kopitnik, **Michael Horowitz**. AANS Annual Meeting, New Orleans, April 1999.
28. Operation or Re-operation for Retained/Residual Arteriovenous Malformation. Duke Samson, Hunt Batjer, Thomas Kopitnik, **Michael Horowitz**. AANS Annual Meeting, New Orleans, April 1999.
29. Cervical and Intracranial Arterial Stenting. Neurosurgical Grand Rounds, University of Texas Southwestern Medical Center, Dallas, Texas, June 25, 1999.
30. Panel Speaker, Surgical Management of Partially Coiled or Recurrent Anterior Circulation Aneurysms. Congress of Neurological Surgeons Annual Meeting, Boston, October 1999.
31. Faculty Instructor, Practical Course on Posterior Circulation Aneurysms, Congress of Neurological Surgeons Annual Meeting, Boston, October 1999.
32. Faculty Instructor, Practical Course on Methylmethacrylate Vertebroplasty, Congress of Neurological Surgeons Annual Meeting, Boston, October 1999.
33. Neuroendovascular Therapies, Surgical Grand Rounds Lecture, University of Pittsburgh Medical Center, September 22, 1999.
34. Carotid, Vertebral and Intracranial Stenting, Neurology/Neurosurgery Grand Rounds, University of Pittsburgh Medical Center, October 6, 1999.

35. Carotid Stenting, Internal Medicine Grand Rounds Presentation, University of Pittsburgh Medical Center, September 24, 1999.
36. Speaker, An Overview of Trigeminal Neuralgia and Recent Advances in Microvascular Decompression Surgery, Trigeminal Neuralgia Association, Philadelphia, PA, November 20, 1999.
37. Trigeminal Neuralgia, Trigeminal Neuralgia Association, Connecticut, March 25, 2000.
38. Carotid, Vertebral and Intracranial Stenting.. Armstrong County Memorial Hospital, Kittaning, PA, January 6, 2000.
39. Effects of Botulinin Toxin on Clinical Outcome of Microvascular Decompression for Hemifacial Spasm, Scarrow AM, Kassam AB, Levy EI, **Horowitz MB**, Yonas H, Jannetta PJ. North American Skull Base Society, Phoenix, AZ, March 17, 2000.
40. Effects of Botulinin Toxin on Intraoperative Lateral Spread During Microvascular Decompression for Hemifacial Spasm, Scarrow AM, Kassam AB, Balzer JR, Patel A, Witham T, **Horowitz M**, Jannetta PJ. North American Skull Base Society, Phoenix, AZ, March 17, 2000.
41. Trigeminal Neuralgia: Anatomy, Etiology, and Treatment, Trigeminal Neuralgia Association, Pittsburgh, PA, March 18, 2000.
42. Carotid and Vertebral Artery Stenting, Citizens General Hospital, New Kensington, PA, April 11, 2000.
43. Endovascular Neurosurgery, Grand Rounds, Pittsburgh Eye and Ear Institute, May 3, 2000.
44. Trigeminal Neuralgia: Anatomy, Etiology, and Treatment, Trigeminal Neuralgia Association, Harrisburg, PA, May 22, 2000.
45. Endovascular Neurosurgery, Medical Grand Rounds, Shadyside Hospital, Pittsburgh, PA, June 1, 2000 .
46. Glossopharyngeal Neuralgia: A ten year experience in 200 patients, Kassam AB, Patel A, **Horowitz M**, Yonas H, Jannetta PJ. 2000 Congress of Neurological Surgeons Annual Meeting, Sept. 2000.
47. Management of Trigeminal Neuralgia: predictors of outcome for microvascular decompression, Tyler-Kabara E, Kassam AB, **Horowitz M**, Urgo L, Hadjipanayis C, Yonas H, Jannetta PJ. 2000 Congress of Neurological Surgeons Annual Meeting, Sept. 2000.
48. Impact of Lateral Spread Monitoring on Microvascular Decompression for Hemifacial Spasm. A prospective Analysis of 75 cases. Kassam AB, Scarrow A, **Horowitz M**, Balzer J, Patel A, Yonas H, Jannetta PJ. 2000 Congress of Neurological Surgeons Annual Meeting, Sept. 2000.
49. Correlation of Transcranial Doppler and Stable Xenon Computed Tomography Subarachnoid Hemorrhage. Kassam AB, Scarrow A, Yonas H, **Horowitz M**, Roach A, Roach E, Ashton C. 2000 Congress of Neurological Surgeons Annual Meeting, Sept. 2000.
50. Anterior Circulation Aneurysms: Treatment Options, Congress of Neurologic Surgeons Annual Meeting, San Antonio Texas, September 25, 2000.
51. Endovascular Neurosurgery: State of the Art AVMs, Congress of Neurologic Surgeons Annual Meeting, San Antonio Texas, September 26, 2000.
52. Posterior Circulation Aneurysms, Congress of Neurologic Surgeons Annual Meeting, San Antonio Texas, September 27, 2000.
53. Management of Trigeminal Neuralgia: Predictors of Outcome for Microvascular Decompression, Tyler-

Kabara E, Kassam A, **Horowitz M**, Urgo L, Hadjipanayis C, Yonas H, Jannetta P. Congress of Neurologic Surgeons Annual Meeting, San Antonio Texas, September 27, 2000.

54. Management of Atypical Trigeminal Neuralgia: Predictors of Outcome for Microvascular Decompression, Tyler-Kabara E, Kassam A, **Horowitz M**, Urgo L, Hadjipanayis C, Yonas H, Jannetta P. Congress of Neurologic Surgeons Annual Meeting, San Antonio Texas, September 27, 2000.
55. Glossopharyngeal Neuralgia: A Ten-Year Experience in 200 Patients, Kassam A, Patel A, **Horowitz M**, Yonas H, Jannetta P. Congress of Neurologic Surgeons Annual Meeting, San Antonio Texas, September 27, 2000.
56. Carotid Stenting, Visiting Professor Lecture, Columbia University, New York, New York, October 5, 2000.
57. Intra-procedural Rupture of Intracranial Aneurysms During Coil Embolization: Management and Outcomes, **Horowitz M**, Levy EI. Joint Meeting of the AANS/CNS Section on Cerebrovascular Surgery and ASITN, Waikoloa, Hawaii, February 10, 2001.
58. Transluminal Stent-Assisted Angioplasty of the Intracranial Vertebrobasilar System for Medically Refractory Posterior Circulation Ischemia. **Horowitz M**, Levy EI. Joint Meeting of the AANS/CNS Section on Cerebrovascular Surgery and ASITN, Waikoloa, Hawaii, February 10, 2001.
59. Impact of Botulinium Toxin on Subsequent Microvascular Decompression for the Treatment of Hemifacial Spasm. Kassam A, **Horowitz M**, Scarrow A, Balzer J, Pless M. Nanos Meeting, Rancho Mirage, CA, February 20, 2001.
60. Outcomes Following Microvascular Decompression for the Treatment of Hemifacial Spasm in Eight-Seven Consecutive Patients over an Eighteen Month Period. Kassam A, **Horowitz M**, Balzer J, Pless M, SoSo M, Chang Y, Sclabassi R, Crammond D, Krieger D, Burkhart L, Seever G. Nanos Meeting, Rancho Mirage, CA, February 20, 2001.
61. Image Fusion in 100 Skull Base, Vascular, and Microvascular Procedures: Preliminary Results. Kassam A, **Horowitz M**, Carrau R, Snyderman C, Hirsch B, Welch W, Seever, G, RN. Annual Meeting of North American Skull Base Society, Lake Buena Vista, Florida, March 3, 2001.
62. Cranial Neuropathies: Pitfalls in Diagnosis and Management. **Horowitz M**, Kassam AB, SoSo M, Pless M, Carrau R, Snyderman C, Hirsch B, Ochs M, Burkhart L. 12<sup>th</sup> Annual Meeting of North American Skull Base Society, Lake Buena Vista, Florida, March 3, 2001.
63. Multimodality Neuromodality Neurophysiological Monitoring During Skull Base Surgery. Balzer JR, Kassam AB, Krieger D, Crammond D, Sclabassi RJ, **Horowitz MB**, Carrau R, Snyderman C, Hirsch. 12<sup>th</sup> Annual Meeting of North American Skull Base Society, Lake Buena Vista, Florida, March 3, 2001.
64. Occipital-Cervical Stabilization Techniques Following Craniocervical Surgery. Kassam A, Gerszten PC, Burke JP, Carrau R, Snyderman C, **Horowitz M**. 12<sup>th</sup> Annual Meeting of North American Skull Base Society, Lake Buena Vista, Florida, March 3, 2001.
65. Comparative Analysis of Quality of Life Outcome Scales in Cranial Base Tumor Population and the Development of a new Disease Specific Instrument. Seever G, Kassam A, **Horowitz M**, Carrau R, Snyderman C, Welch W, Pless M. 12<sup>th</sup> Annual Meeting North American Skull Base Society, Lake Buena Vista, Florida, March 5, 2001.
66. Trigeminal Neuralgia. Kassam AB, **Horowitz MH**. Medical Grand Rounds. St. Margaret's Hospital, Pittsburgh, PA, April 5, 2001.
67. Neurosurgical Aspects of a Severe Closed Head Injury. Invited lecturer. Traumatic Brain Injuries

Litigation Group, American Trial Lawyers Association Annual Convention, Montreal, Canada, July 15, 2001.

68. Poor Grade Aneurysm Patients: Management Options. Invited Lecture. Congress of Neurologic Surgeons 51<sup>st</sup> Annual Meeting. San Diego, CA, October 1, 2001.
69. GDC Embolization of Aneurysms, Thrombolysis, and Vasospasm. Invited Lecture. San Antonio, Texas, May 21, 2001.
70. Endovascular Management of Vascular Tumors. Advances in Cranial Base Surgery. Pittsburgh, PA, May 4-5, 2001.
71. Aneurysm Embolization. University of Pittsburgh School of Nurse Anesthesiologists. Pittsburgh, PA, June 2, 2001.
72. Angioplasty and Stent Placement (panelist). 14<sup>th</sup> Annual Interventional Neuroradiology Peer Review Conference. Jackson Hole, WY, August 2, 2001.
73. Carotid Stenting. South Hills/Southwest Medical Society. Pittsburgh, PA, September 25, 2001.
74. Vertebrobasilar Artery Stenting. Second Annual Stroke Management Conference. Pittsburgh, PA. October 2001.
75. Neurophysiological Monitoring in Microvascular Compression Syndromes. Functional Neurosurgery Meeting. Adelaide, Australia. September, 2001.
76. Microvascular Compression Syndromes. Interesting Observations. Functional Neurosurgery Meeting. Adelaide, Australia. September, 2001.
77. The INR Suite as a Critical Care Arena. AANS/CNS Section on Cerebrovascular Surgery. Dallas, Texas, February 14, 2002.
78. Neurophysiologic Monitoring During Endovascular Coiling of Intracranial Aneurysms. 37<sup>th</sup> Annual Meeting of the Rocky Mountain Neurosurgical Society and The American Association of Neurological Surgeons, Santa Ana Pueblo, New Mexico, June 17, 2002.
79. Endovascular Management of Anterior Communicating Aneurysms: Short Term Results in A Series of 53 Patients. 37<sup>th</sup> Annual Meeting of the Rocky Mountain Neurosurgical Society and The American Association of Neurological Surgeons, Santa Ana Pueblo, New Mexico, June 17, 2002.
80. Microvascular Decompression for Glossopharyngeal Neuralgia: 217 Cases. 37<sup>th</sup> Annual Meeting of the Rocky Mountain Neurosurgical Society and The American Association of Neurological Surgeons, Santa Ana Pueblo, New Mexico, June 17, 2002.
81. PINS 3<sup>rd</sup> Ventriculostomy. 37<sup>th</sup> Annual Meeting of the Rocky Mountain Neurosurgical Society and The American Association of Neurological Surgeons, Santa Ana Pueblo, New Mexico, June 17, 2002.
82. PINS 3<sup>rd</sup> Ventriculostomy. Second Annual Pittsburgh Technology Roundtable Meeting. Pittsburgh, PA, July 2, 2002.
83. Endovascular Symposium. Panelist. Congress of Neurological Surgeons Annual Meeting. Philadelphia, PA, September 23, 2002
84. Endovascular Management of Carotid Artery Disease. AHA Operation Stroke: Medical Perspectives and Therapeutic Interventions. Boardman, Ohio, October 11, 2002.

85. Alcohol Treatment of Indirect Carotid Cavernous Fistulas. Joint Section Cerebrovascular Surgery Meeting, Pheonix, AZ, February 2003.
86. Endovascular Neurosurgery. Surgical Grand Rounds. Mercy Hospital, Pittsburgh, PA, March 26, 2003.
87. Hyperthermia and hypermetabolism in focal cerebral ischemia. International Society of Oxygen Transport to Tissue, Rochester, NY, August 16-20, 2003.
88. Thirty Day Procedure Related Morbidity Associated with Endovascular Treatment of Intracranial Aneurysms. American Academy of Neurological Surgery Meeting, Williamsburg, Virginia, October 30, 2003.
89. Neuroendovascular Surgery and its Role in Otolaryngology. UPMC ENT Oncology Grand Rounds, Pittsburgh, PA, January 21, 2004.
90. Chemotherapy for Head and Neck Cancer. Pittsburgh Cancer Institute Grand Rounds, Pittsburgh, PA, February 10, 2004.
91. Neuroendovascular Surgery. UPMC Anesthesia Grand Rounds, Pittsburgh, PA, February 26, 2004.
92. Minimally Invasive Endoscopic Surgery of the Cranial Base and Pituitary Fossa. Kassam AB, Snyderman C, Carrau R, Sciabassi R, Hirsch B, **Horowitz MB**. UPMC Presbyterian Hospital, Pittsburgh, Pennsylvania, January 23-24, 2004.
93. Intracranial Aneurysms: Coil or Clip? 54<sup>th</sup> Annual Meeting Congress of Neurological Surgeons, San Francisco, California, October 18, 2004.
94. **Horowitz MD**, Levy EI, Sauvageau E, Genevro J, Guterman LR, Hanel RA, Wehman JC, Gupta R, Jovin TG: Intra/extra-aneurysmal stent placement for management of wide-necked aneurysm: Waffle cone technique. *Joint annual meeting of the AANS/CNS cerebrovascular section and American Society of Interventional & Therapeutic Neurology*, Caribe Royale Orlando, Orlando FL, February 17-20, 2006. Poster Presentation.
95. Hravnak M, Crago E, Hricik A, **Horowitz MB**. Relationship between serum glucose and outcomes in patients with subarachnoid hemorrhage. 2007 American Journal of Critical Care; 16: 303.(AACN Research Abstract Award Winner 2007)
96. The Mink G385 Polymorphism Associates with Atrial Arrhythmias after Subarachnoid Hemorrhage Presentation. Abstract Oral Series. 2007 Stroke Council Award and Lecture Presentation.
97. Interventional Radiology, Grand Rounds, UPMC Passavant Hospital, November 13, 2007.
98. Emergent Management of Neurovascular Events, UPMC Shadyside Hospital, June 14, 2008.
99. Stent Assistance in SAH, 5<sup>th</sup> Annual SNIS meeting, Olympic Valley, CA, July 31, 2008.
100. Third Catholic International Neurosurgery Conference and Update, Seoul Korea, February 12-19, 2008.

## FELLOWS TRAINED

### Clinical

2003-2005

Tudor Jovin, M.D., University of Pittsburgh Medical Center, Presbyterian University Hospital, Department of Neurology, 200 Lothrop Street, Suite 811, Pittsburgh, PA 15213

- 2004-2006 Rishi Gupta, M.D., University of Pittsburgh Medical Center, Department of Neurology, Kaufmann Building, Suite 811, Pittsburgh, PA 15213
- 2006-2008 Nirov Vora, M.D. University of Pittsburgh Medical Center, Department of Neurology, Kaufmann Building, Suite 811, Pittsburgh, PA 15213
- 2007-2009 Atzi Aleu, M.D. University of Pittsburgh Medical Center, Department of Neurology, Kaufmann Building, Suite 811, Pittsburgh, PA 15213
- 2008-2010 Brian Jankowitz, M.D. University of Pittsburgh Medical Center, Department of Neurosurgery, Presbyterian Hospital, Suite B 400, Pittsburgh PA 15213
- 2008-2010 Ridwan Lin, M.D. University of Pittsburgh Medical Center, Department of Neurology, Kaufmann Building, Suite 811, Pittsburgh, PA 15213
- 2008-2010 Dean Kostov, M.D. University of Pittsburgh Medical Center, Department of Neurosurgery, Presbyterian Hospital, Suite B 400, Pittsburgh, PA 15213
- 2008-2010 Hilal Kanaan, M.D. University of Pittsburgh Medical Center, Department of Neurosurgery, Presbyterian Hospital, Suite B 400, Pittsburgh, PA 15213
- 2010-2012 Mohammed Jumma, M.D. University of Pittsburgh Medical Center, Department of Neurosurgery, Presbyterian Hospital, Suite B 400, Pittsburgh, PA 15213
- 2010-2012 Syed Zaidi, M.D. University of Pittsburgh Medical Center, Department of Neurosurgery, Presbyterian Hospital, Suite B 400, Pittsburgh, PA 15213

### **Research**

- 3/1/02-2/28/04 Haw-Kwan Park, M.D., Department of Neurological Surgery, St. Mary's Hospital, The Catholic University of Korea, #62 Yoido-dong, Youngdungpo-gu, Seoul, 150-713 Korea
- 7/1/04-6/30/05 Hyeong-Joong Yi, MD, Department of Neurological Surgery, Hanyang University Medical Center #17, Haengdang-gingm Sungdong-gu, 133-792, Seoul Republic of Korea
- 1/07-1/09 Seong-Rim Kim, M.D. Department of Neurosurgery, Holy Family Hospital, The Catholic University of Korea, Sosa-Dong 2, Wonmi-gu, Bucheon, 420-717, Republic of Korea (South Korea)

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## **RESEARCH**

### **Current Research Grants**

<b>Grant Number</b>	<b>Grant Title</b>	<b>Role &amp; Percentage of Effort</b>	<b>Years</b>	<b>Amount</b>	<b>Source</b>
R01HL074316	Myocardial Ischemia and Vasospasm in Aneurysmal SAH	PI 25% effort	2004-2009	\$2,273,652	National Institute of Health R01
R01NR004339	Role of 20-HETE on Vasospasm-induced Ischemia	CO-Investigator 2% effort	2004-2014	\$3,470,058	National Institute of Health



	after SAH				
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**Prior Grant Support**

Funding Source: Howmedica Leibinger  
 Name of Grant: Image Fusion Technology Systems  
 Dates: 9/1/01 - 8/31/02  
 Role on Project: Co-Investigator  
 % of effort: 5%  
 \$ Award: \$49,020.00

Funding Source: Target Therapeutics, Inc.  
 Name of Grant: Validation of Canine Venous Pouch Aneurysm Model by Comparison to Pathological Specimens of Humans  
 Dates: 7/1/01 - 12/31/02  
 Role on Project: Co-Investigator  
 % of effort: 5%  
 \$ Award: \$27,000

**Closed Research Projects:**

1995- Co-Investigator; A prospective clinical study to evaluate the safety and efficacy of the modified detachment zone and power supply for the Guglielmi Detachable Coil (GDC) (IRB #099126800)

1995- Co-Investigator; Embolization of the internal carotid artery (parent vessel occlusion) associated with cerebral aneurysms with ITC detachable silicone balloons (DSB)(IRB # 089626600)

1999- Co-investigator; Compare the use of N-butylcyanoacrylate-tantalum powder to conventional treatment of preoperative embolization of cerebral AVMs (IRB#049610800)

**SERVICE**

**Hospital Committees**

- 2007- Present Malpractice Committee, University of Pittsburgh Medical Center, Pittsburgh, PA
- 1999- Present Associate Director, Center for Cranial Nerve Disorders, University of Pittsburgh Medical Center, Pittsburgh, PA
- 1999- Present Director, Center for Endovascular Neurosurgery, University of Pittsburgh Medical Center, Pittsburgh, PA
- 2001-Present Member UPMC Innovative Practices Committee, University of Pittsburgh Medical Center, Pittsburgh, PA
- 2002-Present Chair, UPMC Presbyterian Technology Assessment Committee, Neuro/ENT/Ophthalmology/Musculoskeletal Services (NEOMS) Committee
- 1998-1999 Co-medical director Zale-Lipshy University Hospital Intensive Care Unit

1995-1999 UT Southwestern Medical Center, Dallas, Texas  
Surgical Case Review Committee

1995- 1999 UT Southwestern Medical Center, Dallas, Texas  
Quality Assurance, Risk Management, Medical Records Committee

### **Academic Committees**

1996-2001 Congress of Neurological Surgeons International Committee, Member of Executive Council

1995-1999 Editor, UTSW Department of Neurosurgery monthly vascular newsletter  
(Cerebrovascular Rounds)

### **Medical Business Activities**

2000 - Present Secretary and Founding Board Member, Surgical Technologies and Assessment Group (STAG), L.L.C., 5001 Baum Blvd., Suite 426, Pittsburgh, PA 15213

2001- 2003 Member Scientific Advisory Board, Seacoast Technologies, Inc., 38 Depot Road, Hampton Falls, NH 03844

2003-2005 Member Scientific Advisory Board, Beecken, Petty, O'Keefe and Company, Chicago, Illinois

2004-Present Partner, NG Coop, LLC, Buffalo, NY

2004-Present Partner, Neuconcepts, LLC

2004-Present Partner, PurFlo, LLC, Miami Florida