

Amer F. Samdani, MD
Pediatric Spine Surgeon

Education

- 1984-1987 Midwood High School
 Brooklyn, NY
- 1987-1991 Columbia University
 New York, NY
 A.B. Degree, Chemistry
 Magna cum Laude
- 1989-1990 Cambridge University
 Junior Year Abroad
 Cambridge, England
 Physical Chemistry
- 1991-1992 Harvard School of Public Health
 Boston, MA
 Epidemiology
- 1992-1997 Johns Hopkins Medical School
 Baltimore, MD
 M.D. Degree
 Alpha Omega Alpha
- 1996-1997 Howard Hughes Research Fellow
 Department of Neuroscience
 Johns Hopkins Medical School
 Preceptor: Ted M. Dawson, M.D., Ph.D.

Professional Experience

- 1997-1998 Intern, Department of General Surgery
 The Johns Hopkins Hospital, Baltimore, MD
- 1998-1999 Junior Assistant Resident, Department of Neurosurgery
 The Johns Hopkins Hospital, Baltimore, MD

1999-2000 Senior Assistant Resident, Department of Neurosurgery
The Johns Hopkins Hospital, Baltimore, MD

2000-2001 Chief Resident, Department of Neurosurgery
The Johns Hopkins Hospital, Baltimore, MD
Pediatric Neurosurgery Service
Walker Functional Neurosurgery Service
Pediatric Neurosurgery Service

2001-2003 Postdoctoral Research Fellow
Stem Cell Laboratory of Dr. Steve Goldman
Cornell University Medical College, New York, NY

2003 Intraoperative MRI Research Fellow
Dr. Michael Schuller
UMDNJ, Newark, NJ
Dr. Peter Black
Brigham and Women's Hospital
Boston, MA

July 2003-04 Assistant Chief of Service, Instructor
Department of Neurosurgery
The Johns Hopkins Hospital, Baltimore, MD

July 2004-2005 Pediatric Neurosurgery Fellow
Children's Hospital of Philadelphia
Philadelphia, Pennsylvania

2005- Spine Surgeon, Medical Staff
Shriners Hospitals for Children, Philadelphia
Philadelphia, Pennsylvania

Awards and Honors

1987 Outstanding Academic Achievement, Midwood High School

1990 Upward Bound Teaching Award, Columbia University

1991 *Magna Cum Laude*, Columbia University

1992 Memorial Sloan-Kettering Summer Research Fellowship

1995 Harold Lamport Research Grant

1996 Howard Hughes Research Award for Medical Students

1997 Hunterian Research Award for Medical Students

1997 *Alpha Omega Alpha*, Johns Hopkins Medical School

1999 Alfred Blalock Research Award for Residents, JHH

1999 Outstanding Poster: Tumor Section, Congress of Neurosurgeons

2003 Southern Neurosurgical Society Best Overall Resident Paper

2003 Sherman Traveling Fellowship

2005 Synthes Spine Educational Grant

Research Experience

- 1993 Department of Surgery, Memorial Sloan-Kettering Hospital, New York, NY
Role of interleukin-1 in hepatic regeneration.
Yuman Fong, M.D.
- 1994 Department of Neurosurgery and Department of Neuroscience
The Johns Hopkins Hospital, Baltimore, MD
Stimulated astroglia inhibit brain tumors.
Henry Brem, M.D., Ted M. Dawson, M.D., Ph.D.
- 1996-1997 Department of Neuroscience
The Johns Hopkins Hospital, Baltimore, MD
Nitric oxide mediated neurotrophin neurotoxicity
Ted M. Dawson, M.D., Ph.D.
- 2001-2003 Department of Neuroscience
Cornell Medical College, New York, NY
Stem cells and neurogenesis in Huntington's Disease
Research Fellow
Steve Goldman, M.D., Ph.D.
- 2003 Department of Neurosurgery
University of Medicine and Dentistry of New Jersey
Newark, NJ
Intraoperative MRI using a compact imager
Research Fellow
Michael Schulder, M.D.
- 4/03 Department of Neurosurgery
Brigham and Women's Hospital, Boston, MA
Intraoperative MRI using a dedicated imaging suite
Research Fellow
Peter Black, M.D., Ph.D.

Licensure and Certifications

- 2001 American Board of Neurological Surgeons Primary Examination
2002 New York State Medical License
2003 Maryland State Medical License
2004 Pennsylvania State License

Professional Societies

American Association of Neurological Surgeons
Congress of Neurological Surgeons
Johns Hopkins Medical and Surgical Association

Lectures and Talks

1. Nitric oxide mediates the potentiation of neurotoxicity by neurotrophins. American Association of Physicians of Indian Origin, Boston, MA. July 5, 1996.
2. Residency Choice Panel. Johns Hopkins School of Medicine, Baltimore, MD May 8, 1997.
3. Taxol and interferon-gamma synergize to inhibit brain tumors via astroglial nitric oxide production. Congress of Neurological Surgeons, Boston, MA. November 2, 1999.
4. Astroglia induce cytotoxic effects toward brain tumors via a nitric oxide dependent mechanism both *in vitro* and *in vivo*. Congress of Neurological Surgeons, San Antonio, TX. September 26, 2000.
5. Adenoviral BDNF induces neostriatal neuronal recruitment from in transgenic R6/2 huntingtin mice. The New York City Progenitor Club Meeting, New York, NY. April 10, 2002.
6. Adenoviral BDNF induces neostriatal neuronal recruitment from endogenous progenitor cells in transgenic R6/2 Huntington mice. American Society for Gene Therapy, Boston, MA. June 8, 2002.
7. Adenoviral BDNF induces striatal neuronal recruitment from endogenous progenitor cells in transgenic R6/2 Huntington mice. Congress of Neurological Surgeons, Philadelphia, PA. September 26, 2002.
8. Adenoviral BDNF induces heterotopic neostriatal neuronal recruitment from endogenous progenitor cells in transgenic R6/2 Huntington mice. Society for Neuroscience 618.5, Orlando, FL. November 5, 2002.
9. Adenoviral BDNF induces neostriatal neuronal recruitment from endogenous progenitor cells in transgenic R6/2 Huntington mice. Southern Neurosurgical Society, Orlando, FL. March 12, 2003.
10. Use of a compact intraoperative MRI in pediatric neurosurgery. Congress of Neurological Surgeons, Denver, CO, October 21, 2003.
11. Pediatric head trauma. Trauma Conference, Children's Hospital of Philadelphia, Philadelphia, PA, July 22, 2004.

Short Courses

1. Armed Forces Institute of Pathology Neuroradiology Course
Course Director: Kelly Koeller
Bethesda, MD, February 19-20, 2000
2. Johns Hopkins Spinal Symposium, Synthes Spine
Course Director: James Campbell
Paoli, PA, October 12-13, 2001
3. Principles and Practice of Gamma Knife Surgery
Course Director: Dade Lunsford, Douglas Kondziolka, John Flickinger
Pittsburgh, PA, June 2-6, 2003
4. Pediatric Spinal Deformity, Depuy Spine
Course Director: Randal Betz
Philadelphia, PA, July 13-14, 2004
5. AO Spine: Advanced concepts in management of spinal disorders
Course Directors: Michael Fehlings and Jeffrey Wang
Sun Valley, Idaho, February 3-6, 2005

Articles

1. Samdani AF, Newcamp C, Resink A, Facchinetti F, Hoffman BE, Dawson VL, and Dawson TM. "Differential susceptibility of cultures to neurotrophins and neuronal nitric oxide synthase." Journal of Neuroscience 15;17(12):4633-41, 1997.
2. Samdani AF, Dawson VL, and Dawson TM. "Nitric oxide synthase in models of focal ischemia." Stroke 28(6):1283-8, 1998.
3. Samdani AF, Tamargo RJ, and Long DM. "Brain edema: a review of current ideas." Neurosurgery Quarterly 9(2):120-37, 1999.
4. Garonzik IM, Samdani AF, Ohara S, and Lenz FA. "Deep brain stimulation for the control of pain." Epilepsy and Behavior 2:S55-S60, 2001.
5. Garonzik IM, Samdani AF, Carson BS, and Avellino AM. "Pneumocephalus in a newborn with an open myelomeningocele." Pediatric Neurosurgery 35:334, 2001.
6. Goldman SA, Benraiss A, Chmielnicki E, Keyoung HM, Nunes M, Roy NS, Samdani AF, and Windrem M. "Isolation and induction of adult progenitor cells." Clinical Neuroscience Research 2:70-9 (2002).

7. Samdani AF, Garonzik IM, and Zahos PA. "Spinal angioliipoma: case report and review of the literature." Acta Neurochir (Wien) 2004 Mar;146(3):299-302; discussion 302.
8. Samdani AF, Kuchner E, Rhines LD, Adamson DC, Tyler BM, Brem H, Dawson VL, and Dawson TM. "Astroglia inhibit tumor growth via a nitric oxide mediated mechanism both *in vitro* and *in vivo*." Neurosurgery 2004 May;54(5):1231-7; discussion 1237-8.
9. Albayrak B, Samdani AF, and Black PM. "Intra-operative magnetic resonance imaging in neurosurgery." Acta Neurochir (Wien) 2004 Jun;146(6):543-57.
10. Samdani AF, Garonzik IM, and Zahos PA. "Subdural hematoma following diagnostic lumbar puncture." Am J Emerg Med. 2004 Jul;22(4):316-7.
11. Samdani AF, Schulder M, Cattrombone J, and Carmel PW. "Use of a compact intraoperative low-field magnetic imager in pediatric neurosurgery." Child's Nervous System. 2004 Nov 25.
12. Samdani AF, Storm PB, Kuchner E, Garonzik IM, and Carson B. "Ventriculoperitoneal shunt malfunction presenting with pleuritic chest pain." Pediatr Emerg Care. 2005 Apr;21(4):261-3.
13. McGirt MJ, Woodworth G, Samdani A, Garonzik IM, Olivi A, Weingart JD. "Accuracy of frameless versus frame-based image-guided stereotactic brain biopsy in the diagnosis of glioma: Comparison of biopsy and open resection specimen." Neurol Res. 2005 Jun;27(4):358-62.
14. Sciubba DM, Stuart RM, McGirt MJ, Woodworth GF, Samdani A, Carson B, and Jallo GI. "Antibiotic-impregnated shunt catheters decrease the incidence of shunt infection in the treatment of hydrocephalus." Journal of Neurosurgery: Pediatrics. August (Cover).
15. Danish S, Samdani AF, Hanna A, Stiefel M, Storm PJ, and Sutton L. "The efficacy of duragen as a dural substitute following chiari decompression." Submitted Neurosurgery.
16. Danish S, Samdani AF, Storm PJ, and Sutton L. "The use of allogenic skin graft for the closure of a large meningomyelocele: technical note." Accepted Neurosurgery.
17. Cho SR, Chmielnicki E, Samdani AF and Goldman SA. "Adenoviral co-delivery of BDNF and noggin induces striatal neuronal replacement and delays motor impairment in a transgenic model of Huntington's Disease." Submitted Science.

18. Samdani AF, Walker DW, Alyarak B, Talos F, and Black PM. "Intraoperative MRI for transsphenoidal surgery." Submitted Neurosurgery.
19. Khalessi A, Samdani AF, Gallia G, McGirt MJ, Eberhart C, and Carson B. "Intraventricular ganglioglioma: case report." Submitted Neurosurgery.

Book Chapters

1. Samdani AF, Tamargo RJ, and Long DM. "Brain tumor edema and the role of the blood-brain barrier." In Handbook of Clinical Neurology, C.J. Veitch, editor, (Elsevier Science BV, The Netherlands), part 1, chapter 4, pp71-102, 1997.

Abstracts

1. Samdani AF, Newcamp C, Resink A, Facchinetti F, Hoffman BE, Dawson VL, Dawson, and Dawson TM. "Nitric oxide mediates the potentiation of neurotoxicity by neurotrophins." Oral Presentation, American Association of Physicians of Indian Origin, Boston, MA, July 4-8, 1996.
2. Samdani AF, Watts M, Sills AK, Ewend M, Tyler B, Dawson VL, Dawson TM, and Brem H. "Nitric oxide produced by glia inhibits growth of human and experimental metastatic brain tumors." Congress of Neurological Surgeons, Montreal, Canada, Sept 28-Oct 3, 1996.
3. Samdani AF, Sills AK, Zhao Z, Ewend M, Tyler B, Leong K, Brem H. "Systemic vaccination with GM-CSF microspheres protects against growth of intracranial melanoma." Congress of Neurological Surgeons, Montreal, Canada, Sept 28-Oct 3, 1996.
4. Samdani AF, Newcamp C, Resink A, Facchinetti F, Hoffman BE, Dawson VL, Dawson, and Dawson TM. "Nitric oxide mediates the potentiation of neurotoxicity by neurotrophins." Society for Neuroscience Meeting Abstract 22:997, Washington, D.C., November 1-8, 1996.

5. Samdani AF, Newcamp C, Resink A, Facchinetti F, Dawson VL, Dawson, and Dawson TM. "Differential susceptibility of cultures mediated by neurotrophins and neuronal nitric oxide synthase. 22nd International Joint Conference on Stroke and Cerebral Vascular Circulation, American Heart Association, Anaheim, CA, February 20-25, 1997.
6. Dawson VL, Gonzalez-Zulueta M, Samdani AF, and Dawson TM. "Mechanisms of resistance to oxidative injury in models of focal ischemia." 8th International Symposium on Stroke, Neurotrauma, and Other Neurological Diseases, New Orleans, LA, March 2-7, 1997.
7. Watts MC, Lesniak M, Burke M, Samdani AF, and Brem H. "Controlled release of adriamycin in the treatment of malignant glioma." The American Association of Neurological Surgeons, Denver, CO, April 12-17, 1997.
8. Samdani AF, Watts M, Sills AK, Tyler BM, Dawson VL, Dawson TM, and Brem H. "Nitric oxide produced by glia inhibits growth of metastatic brain tumors." The American Association of Neurological Surgeons, Denver, CO, April 12-17, 1997.
9. Samdani AF, Rhines LD, Adamson DC, Tyler BM, Brem H, Dawson VL, and Dawson TM. "Taxol and interferon-gamma synergize to inhibit brain tumors via astroglial nitric oxide production." Oral Presentation, Congress of Neurological Surgeons, Boston, MA, October 30-November 4, 1999.
10. Samdani AF, Rhines LD, Adamson DC, Lawson HC, Tyler BM, Brem H, Dawson VL, and Dawson TM. "Astroglia mediate cytotoxic effects toward brain tumors via a nitric oxide dependent mechanism *in vivo*." American Association of Neurological Surgeons, New Orleans, LA, April 24-29, 1999.
11. Rhines LD, Lawson HC, Samdani AF, DiMeco F, Tyler B, Dawson VL, and Brem H. "Stimulation of astroglia with interleukin-4, interleukin-12, and interleukin-13: effects on co-cultured tumor cells." Congress of Neurological Surgeons, Boston, MA, October 30-November 4, 1999.
12. Samdani AF, Rhines LD, Adamson DC, Lawson HC, Tyler BM, Brem H, Dawson VL, and Dawson TM. "Astroglia induce cytotoxic effects toward brain tumors via a nitric oxide dependent mechanism both *in vitro* and *in vivo*." Oral Presentation, Congress of Neurological Surgeons, San Antonio, TX. September 23-28, 2000.
13. Samdani AF, Chmielnicki E, Benraiss A, and Goldman SA. "Adenoviral BDNF induces neostriatal neuronal recruitment from endogenous progenitor cells in transgenic R6/2 huntingtin mice." Oral Presentation, American Society for Gene Therapy, Boston, MA, June 6-9, 2002.

14. Samdani AF, Chmielnicki E, Benraiss A, and Goldman SA. "Adenoviral BDNF induces neostriatal neuronal recruitment from endogenous progenitor cells in transgenic R6/2 huntingtin mice." *Molecular Therapy* (abstract) 2002:5.
15. Samdani AF, Chmielnicki E, Benraiss A, and Goldman SA. "Adenoviral BDNF induces striatal neuronal recruitment from endogenous progenitor cells in transgenic R6/2 huntingtin mice." Oral Presentation, Congress of Neurological Surgeons, Philadelphia, PA, September 21-26, 2002.
16. Samdani AF, Chmielnicki E, Benraiss A, and Goldman SA. "Adenoviral BDNF induces heterotopic neostriatal neuronal recruitment from endogenous progenitor cells in transgenic R6/2 huntingtin mice." Oral Presentation, Society for Neuroscience 618.5, Orlando, FL, November 2-7, 2002.
17. Samdani AF, Chmielnicki E, Benraiss A, and Goldman SA. "Adenoviral BDNF induces neostriatal neuronal recruitment from endogenous progenitor cells in transgenic R6/2 huntingtin mice." Oral Presentation, Southern Neurosurgical Society, Orlando, FL, March 12-15, 2003.
18. Samdani AF, Schulder M, Cattrombone J, and Carmel PW. "Use of a compact intraoperative imager in pediatric neurosurgery." Oral Presentation, Congress of Neurological Surgeons, Denver, CO, October 18-23, 2003.
19. Samdani AF, Schulder M, Cattrombone J, and Carmel PW. "Use of a compact intraoperative imager in pediatric neurosurgery." Oral Presentation, Section of Pediatric Neurosurgery, Salt Lake, Utah, December 5-8, 2003.
20. Sciubba DM, Stuart RM, McGirt MJ, Woodworth GF, Samdani AF, Carson B, and Jallo GI. "Antibiotic-impregnated shunt catheters decrease the incidence of shunt infection in the treatment of hydrocephalus." Congress of Neurological Surgeons, San Francisco, California, October 16-21, 2004.
21. McGirt MJ, Woodworth G, Samdani AF, Garonzik IM, Olivi A, Weingart J. "Frameless versus frame-based image-guided stereotactic brain biopsy in the diagnosis of glioma: Comparison of biopsy and open resection specimen." Oral Presentation, Congress of Neurological Surgeons, San Francisco, California, October 16-21, 2004.
22. McGirt MJ, Woodworth G, Samdani AF, Garonzik IM, Olivi A, Weingart J. "Comparison of frame-based and frameless image-guided stereotactic brain biopsy: An institutional experience." Oral Presentation, Congress of Neurological Surgeons, San Francisco, California, October 16-21, 2004.

23. Sciubba DM, Stuart RM, McGirt MJ, Woodworth GF, Samdani AF, Carson B, and Jallo GI. “Antibiotic-impregnated shunt catheters decrease the incidence of shunt infection in the treatment of hydrocephalus.” Section of Pediatric Neurosurgery, San Francisco, California, December 8-11, 2004.
24. Danish S, Samdani AF, Hanna A, Stiefel M, Storm PJ, and Sutton L. “The efficacy of duragen as a dural substitute following chiari decompression.” Section of Pediatric Neurosurgery, San Francisco, California, December 8-11, 2004.
25. McGirt MJ, Woodworth GF, Stewart RM, Sciubba DM, Carson B, Samdani AF, and Jallo G. “Adjustable versus set-pressure valves decrease the risk of proximal shunt obstruction despite similar revision rates for the treatment of pediatric hydrocephalus.” American Association of Neurological Surgeons, April 16-21, 2005.