

Curriculum Vitae Erlanger Neurosurgery

Date 9/24/15

Personal Information

Name: Joseph H. Miller, M.D.
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Department: Neurosurgery
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Prior Hospital Appointments: University of Alabama at Birmingham Chief Resident in Neurological surgery; Clinical Researcher, Emory University Department of Neurosurgery; Physician Elmore Community Hospital

Professional Consultantships | Conflict of Interest: None

Education:

Institution	Degree	Year
Montgomery Academy	-	1989-1999
Trinity School	High School Diploma	1999-2001
Samford University	BS, magna cum laude	2001-2005
University of Alabama SOM	MD	2005-2009

Licensure: Alabama: 2010-2016, Tennessee: 2016-2017

Board Certification: Board Eligible

Postdoctoral Training:

Institution	Degree	Year
UAB Neurosurgery	Intern in Neurosurgery	2009-2010
UAB Neurosurgery	Resident in Neurosurgery	2010-2016
UAB Neurosurgery	Chief Resident	2014-2016
UAB Department of Surgery	T32 NIH Fellow	2012-2013

Fellowship Training

Institution		Year
UAB Neurosurgery	Complex and Minimally Invasive Spine Surgery	2016

Academic Appointments: University of Tennessee at Chattanooga

Awards/Honors:

Ruric E. Wheeler Award, Samford University, 2004

John Howard Scholarship Award, Samford University, 2005

Samford Award for Excellence in Biology, 2005

UAB Award for Clinical Excellence, 2009

Galbraith Award for Excellence in Neurosurgery Research, 2012

James "Buddy" Nobles Jr. Resident Education Award, 2012

Griffith Harsh Resident Education Award, 2013

Griffith Harsh Resident Education Award, 2014

Congress of Neurological Surgery Research Award- Boston, MA October 2014-

"Preclinical validation of Multilevel Intraspinial Stem Cell
Therapy for Amyotrophic Lateral Sclerosis"

UAB Stephens Scholar in Neurosurgery, 2015-2016

Community Service:

2012-2013- YMCA Youth Soccer Coach

2008 – Mpower Clinic, Birmingham, AL

2006-2007 – Southtown Volunteer

Professional Societies/Memberships:

Tinsley Harrison Research Society, 2007-2008

Gold Humanism Honor Society, 2008-Present

Congress of Neurological Surgeons, 2009-Present

American Association of Neurological Surgeons, 2009-Present

Southern Neurosurgical Society, 2012-Present

Hospital Councils and Committees:

UAB Pharmacy Reconciliation Committee, 2012

Children's of Alabama EMR Template Committee, 2012

UAB Outpatient EMR Data Preloading Committee, 2012

UAB House Council Elected Resident Representative 2012-2013

University Educational Activities

Medical Student Mentor, 2009- Present

Editorial Board Memberships:

Ad hoc reviewer for *Clinical Anatomy*, 2010-Present

Teaching Experience:

Peacock Fellow, UAB Medical Gross Anatomy Instructor, 2006

Medical evidence conference, 2009-2012

Case Control versus Cohort Study, 3/23/2011

Study Design for Randomized Controlled Trials, Journal Club, 9/28/2011

Guideline Development, UAB Journal Club 6/25/2014

UAB Education Chief 2014-15

Grant Support:

NIH Medical Student Training Program, A comparative analysis of statistical parametric mapping, SISCO, and ictal SPECT in regards to neurosurgical outcomes for epilepsy. Clinical Mentor: Robert Knowlton. 2006-2008

NIH T32 Clinical Research Fellowship, Clinical Mentor: James Markert. 2012-2013

Bibliography

Manuscripts

1. Tubbs RS, Miller JH, et al. Surgical and anatomic landmarks of the perineal branch of the posterior femoral cutaneous nerve: implications in perineal pain syndromes. *J Neurosurg.* 2009;111(2):332-335
2. Tubbs RS, Miller JH, et al. Intraoperative Landmarks for Resection of the Amygdala during Medial Temporal Lobe Surgery. *Neurosurgery.* 2010;66(5)
3. Chern, JJ, Miller JH, Tubbs RS, et al. Massive pediatric neurosurgical injuries and lessons learned following a tornado disaster in Alabama. *J Neurosurg Pediatr.* 2011;8(6):588-592
4. Loukas M, Shayota BJ, Miller JH, et al. Associated disorders of Chiari Type I malformations: a review. *Neurosurg Focus.* 2011;31(3):E3.
5. Chern JJ, Miller JH, Tubbs RS, et al. Clinical evaluation and surveillance imaging in spina bifida aperta and shunt-treated hydrocephalus. *J Neurosurg Pediatr.* 2012;9(6):621-626
6. Tubbs RS, Muhleman M, Miller JH, et al. Cervical ribs with neurological sequelae in children: a case series. *Childs Nerv Syst.* 2012;28(4):605-608
7. Tubbs RS, Chern J, Miller JH, et al. Progressive Symptomatic Increase in Size of Choroidal Fissure Cysts: Case Series and a Review of the Literature. Report of 4 cases. *JNS Peds.: 10(4):306-9 (2012)*
8. Tubbs RS, Miller JH, et al. Ossification of the Human Tentorium. *Biomedicine International.* 3:1 (2012)
9. Federici T, Miller JH, Boulis N, et al. Surgical Technique for Spinal Cord Delivery of Therapies – Demonstration of Procedure in Gottingen Minipigs. JOVE. (), e4371, DOI:10.3791/4371 (2012)
10. Miller JH, Hadley MN, Pritchard PR. Neurosurgical injuries resulting from the 2011 Tornadoes: The UAB Experience. *JNS.* 2013 Jun;118(6):1356-62
11. Lamanna JJ, Miller JH, Riley JP, Hurtig CV, Boulis NM. Cellular Therapeutics Delivery to the Spinal Cord: Technical Considerations for Clinical Application. *Therapeutic Delivery.* 2013;4(11).
12. Leavitt R, Quach D, Lam T, Nguyen I, Lee D, Hefferan MP, Wu M, Hazel TG, Miller JH, Grin N, Hurtig CV, Federici T, Gutierrez J, Boulis N, Johe K. Safety profile of transplanting human neural stem cells into the phrenic nucleus of mini pig. Society for Neuroscience Abstract 716.04, 2013.
13. Miller JH, Garber ST, McCormick DE, Eskandari R, Walker ML, Rizk E, Tubbs RS, Wellons JC. Oberlin transfer and partial radial to axillary nerve neurotization to repair an explosive traumatic injury to the brachial plexus in a child: case report. *Childs Nerv Syst.* 2013 Nov;29(11):2105-9

14. Griessenauer CJ, Miller JH, Agee BS, Fisher WS, Cure JK, Chapman PR, Foreman PM, Fisher WAM, Witcher AC, Walters BC. Observer reliability of arteriovenous malformations grading scales using current imaging modalities. *JNS*. 2014 May;120(5):1179-87
15. Roque, B. Miller, J. Bone morphogenetic protein-associated complications in pediatric spinal fusion in the early postoperative period: an analysis of 4658 patients and review of the literature. Clinical article. *JNS Peds*. 2014 Dec;14(6):635-43
16. Gutierrez J, Lamanna J, Grin N, Hurtig C, Miller JH, Riley J, Urquia L, Avalos P, Svendsen CN, Federici T, Boulis NM. Preclinical Validation of Multilevel Intraspinial Stem Cell Therapy for Amyotrophic Lateral Sclerosis (ALS). *Stem Cells*. Submitted Oct 23, 2014
17. Shoja MM, Oyesiku NM, Miller JH, Tubbs RS. A comprehensive review with potential significance during skull base and neck operations, Part II: glossopharyngeal, vagus, accessory, and hypoglossal nerves and cervical spinal nerves 1-4. *Clin Anat*. 2014 Jan;27(1):131-44
18. Greissenauer CJ, Rizk E, Miller JH, Tubbs RS, Chern JJ. Pediatric tectal plate gliomas: clinical and radiological progression, MR imaging characteristics, and management of hydrocephalus. *JNS Peds*. 2014 Jan;13(1):13-20
19. Gutierrez J, Moreton CL, Miller JH, Boulis N et al. Understanding Cell Migration after direct transplantation into the spinal cord: A Tool to Determine the Optimal Transplantation Volume. *Neurosurgery*. 2015 Aug 62(1) 234
20. Miller JH, Johnston J. "Sports Related Traumatic Brain Injury in the Pediatric Population: A Review" *J Neurosurg Peds*. Accepted. Publication Pending
21. Miller JH, Witcher AC, Fisher WAM, Griessenauer CJ, Agee B, Harrigan MR, Fisher WS. Radiosurgical outcomes for large arteriovenous malformations: A cohort study. *JNS*. Submitted
22. Ditty BJ, Omar N, Miller JH, Fisher WAM, Fisher WS, Harrigan M. Long-term seizure outcomes after GammaKnife Radiosurgery for the treatment of cerebral arteriovenous malformations. *JNS*. Submitted.

Books/Book Chapters

1. Miller, JH. Rozzelle, C. *Pediatric Spinal Cord Injury*. Principles and Practice of Pediatric Neurosurgery.
2. Miller, JH, Markert J. *Gene Therapy for Gliomas*. Neuro-oncology: The Essentials. 3rd Edition.
3. Patel DM, Miller JH, Fisher WS. Glossopharyngeal neuralgia Treatment. *Nerves and Nerve Injuries Vol 2*: London 2015. p71-80.
4. Miller, JH, Hadley, MN. Anatomic variation in the human cervical spine. Variation in Human Anatomy. Editor Shane Tubbs. *In Press*

Oral Presentations

1. Gill, C, Miller JH, Johnston J. Predictors of Prolonged Recovery following sports

- related concussion: A Single Center Retrospective study. Pediatric Neurosurgery Section. Toronto 2013
2. Miller JH, Fisher W, Harrigan M, Fisher WS. "Gamma knife for large arteriovenous malformations: A Cohort Study" Presented at the Galbraith Meeting. Winner of Griffith Harsh Research Award. Birmingham. 2013
 3. Miller JH, McCormick D, Dupepe E, Patel D, Riley KO. "Hemorrhagic and Non-hemorrhagic pituitary apoplexy: A radiographic cohort study". Pituitary Society. San Francisco 2013.
 4. Miller JH, McCormick D, Dupepe E, Patel D, Riley KO. "Hemorrhagic and Non-hemorrhagic pituitary apoplexy: Clinical and Endocrinologic Cohort study". Pituitary Society. San Francisco 2013.
 5. Miller JH, McCormick D, Dupepe E, Patel D, Riley KO. "Hemorrhagic and Non-hemorrhagic pituitary apoplexy: A Cohort study". Congress of Neurological Surgeons. San Francisco 2013.
 6. Miller JH, Fisher W, Harrigan M, Fisher WS. "Gamma knife for large arteriovenous malformations: A Cohort Study" Presented at the Southern Neurosurgical Society. Sarasota. 2013
 7. Miller JH, Hadley MN, Okor MO, Pritchard PR. "Neurosurgical Injuries Resulting from the 2011 Tornadoes: The UAB Experience." Presented at the Southern Neurosurgical Society. Amelia Island. 2012.
 8. Miller, JH. Oakes, J. et al. "Massive pediatric neurosurgical injuries and lessons learned following a tornado disaster in Alabama." Galbraith Research Week. Birmingham, AL. 2012
 9. Miller, JH. "Traumatic Brain and Spinal Cord Injuries" Surgery Grand Rounds, March 9, 2010
 10. Miller, JH. "Advances in Ictal SPECT" Neurology Grand Rounds, February 23, 2010
 11. Miller, JH. Knowlton, R. "Statistical Parametric Mapping and Ictal SPECT in the presurgical evaluation of epilepsy" UAB Research Fair, 2006
 12. Gutierrez, J. Lamanna, JJ. Grin, N. Hurtig, C. Miller JH. Riley J. Federici T. Boulis NM. "Preclinical Validation of Multilevel Intraspinial Stem Cell Therapy- Does escalation assessment in Gottingen minipigs." Regenerative Medicine Workshop. 2014.
 13. Gutierrez J, Lamanna JJ, Grin N, Hurtig CV, Miller JH, Riley J, Urquia L, Federici T, Boulis NM. Preclinical Validation of Multilevel Intraspinial Stem Cell Therapy for Amyotrophic Lateral Sclerosis (ALS). Congress of Neurological Surgeons Annual Meeting (Boston, October 2014).
 14. Miller J, Fisher WF, Harrigan M. Programmable versus non-programmable shunt valves in aneurysmal subarachnoid hemorrhage: a cohort study. Neurosurgical Society of Alabama. Sandestin, FL June 2014.
 15. Miller J, Gill C, Rocque B, Niemann J, Brown S, Crowther M, Ferguson D, Johnston J. Predictors of Prolonged Recovery Following Sports Related Concussion: A Case-Control Study. Neurosurgical Society of Alabama. Sandestin, FL June 2014.
 16. Miller J, Gill C, Rocque B, Niemann J, Brown S, Crowther M, Ferguson D, Johnston J. Predictors of Prolonged Recovery Following Sports Related

- Concussion: A Case-Control Study. Galbraith Research Week. Birmingham, AL 2014.
17. Gutierrez J, Miller J, Federici T, Boulis N. Preclinical Validation of Multilevel Intraspinial Stem Cell Therapy for Amyotrophic Lateral Sclerosis. Boston, MA. Congress of Neurological Surgeons 2014. Winner Top Research Award
 18. Gutierrez J, Moreton C, Lamanna JJ, Schapiro R, Grin N, Hurtig CV, Miller JH, Riley J, Urquia L, Federici T, Boulis NM. Understanding cell migration after direct transplantation into the spinal cord - a tool to calculate the optimal transplantation volume. Congress of Neurological Surgeons Annual Meeting (New Orleans, September 2015).

Ongoing Research Interest:

- 2013-2015- Development of the UAB Porcine Spinal Cord Injury Lab
 - Validation of a porcine spinal cord injury model
 - Measurement of spinal cord perfusion pressures following spinal cord injury and its effect on long term locomotor and sensory outcomes in the pig
- 2004-2008 Research/Clinical Assistant. Multimodality coregistrations for operative epilepsy cases involving magnetoencephalography, ictal SPECT, MRI, PET, and CT
- 2012-14- Pluripotent stem cells for ALS
- Gamma knife for large arteriovenous malformations: a retrospective cohort study
- Management of CSVT: a metanalysis
- The impact of grid duration on post operative outcome in epilepsy surgery
- Study on the inter-rater reliability of the X-stop grading system
- Cryptococcal gattii meningitis: A case study and review of the neurosurgical management
- Surveillance CT in the management of Spina bifida associated hydrocephalus: a case-control study
- Minimal invasive versus open decompression for lumbar stenosis: A Cohort study
- Prospective patient expectations in spine surgery: A prospective clinical outcomes study
- Multicenter randomized controlled trial for the surgical treatment of craniopharyngioma
- Steel's Rule of Thirds: A radiographic confirmation
- Programmable versus nonprogrammable shunt valves in subarachnoid hemorrhage patients: A Cohort Study
- Disaster Neurosurgery: A Review of the Literature
- TLICS in Children
- Cerebellar hamartoma: A Case Report
- Historical: Le Coup De poignard rachidien
- OR Cost Saving in spine surgery

Extracurricular Activities

Alabama Neurosurgery Softball Team, 2009-Present

Intramural athletics, Basketball, Football, Soccer, Dodgeball, 2001-2008

Hobbies and Interest

1998-2015 – Rock climbing and mountaineering, climbed on three continents, eight countries, and twelve states

2004-2015 – Sailing, My wife and I rebuilt a 1979 Catalina 22' sailboat

1998-2005 – Mountain Biking XC racing

Backcountry skiing, hunting, fly-fishing, golf, soccer, football, basketball, running, woodworking/carpentry, and photography