



# JOHNS HOPKINS M E D I C I N E

## CURRICULUM VITAE EDWARD S. AHN, M.D. July, 2009

### DEMOGRAPHIC AND PERSONAL INFORMATION

Assistant Professor of Neurosurgery  
Department of Neurosurgery  
Johns Hopkins University

Place and Date of Birth: Baltimore, Maryland, USA, May 16, 1974

### Business Address:

Division of Pediatric Neurosurgery  
The Johns Hopkins Hospital  
600 North Wolfe Street, Harvey 811  
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### EDUCATION AND TRAINING

|                          |      |   |  |
|--------------------------|------|---|--|
| 1992-1996                | B.A. | HARVARD UNIVERSITY<br>Cambridge, MA                       | Primary Concentration: Biology<br>Secondary Concentration: East Asian<br>Studies<br><i>Cum laude</i> |
| 1996-2000                | M.D. | NEW YORK UNIVERSITY<br>SCHOOL OF MEDICINE<br>New York, NY | M.D. with Honors in Physiology   |
| June 2000 -<br>June 2001 |      | UNIVERSITY OF MARYLAND<br>MEDICAL CENTER<br>Baltimore, MD | Internship, Department of General<br>Surgery   |

|                          |   |  |
|--------------------------|---|--|
| July 2001 -<br>June 2006 | UNIVERSITY OF MARYLAND<br>MEDICAL CENTER<br>Baltimore, MD               | Residency, Department of Neurosurgery  |
| July 2006 -<br>June 2007 | CHILDREN'S HOSPITAL<br>BOSTON / HARVARD MEDICAL<br>SCHOOL<br>Boston, MA | Shillito Staff Associate, Fellowship in<br>Pediatric Neurosurgery, Department of<br>Neurosurgery |

## PROFESSIONAL EXPERIENCE

|                             |  |  |
|-----------------------------|--|--|
| July 2006 -<br>August 2007  | Active Staff<br>Department of Neurosurgery   | Childrens Hospital Boston                      |
| July 2007 -<br>August 2007  | Clinical Instructor<br>Department of Surgery | Harvard Medical School                         |
| September<br>2007 - present | Assistant Professor of<br>Neurosurgery       | Johns Hopkins University School of<br>Medicine |

## RESEARCH ACTIVITIES

### Publications

#### *Peer-reviewed original articles*

1. Matsumoto M, Sasaki T, Nagashima H, **Ahn ES**, Young W, Kodama N. Effects of N-Methyl-D-Aspartate, Glutamate, and Glycine on the Dorsal Column Axons of Neonatal Rat Spinal Cord: In Vitro Study. *Neurol Med Chir (Tokyo)*. 2005;45(2):73-81.
2. **Ahn ES**, Chin LS, Gyure KA, Hudes RS, Ragheb J, DiPatri AJ Jr. Long-term control after resection and gamma knife surgery of an intracranial clear cell meningioma: case report. *J Neurosurg*. 2005 Apr;102(3 Suppl):303-6.
3. **Ahn ES**, Smith ER. Acute clival and spinal subdural hematoma with spontaneous resolution: Clinical and radiographic correlation in support of a proposed pathophysiologic mechanism. *J Neurosurg*. 2005 Aug;103(2 Suppl):175-9.
4. Aarabi B, Hesdorffer, DC, **Ahn ES**, Aresco C, Scalea TM, Eisenberg HM. Outcome following decompressive craniectomy for malignant swelling following severe head injury. *J Neurosurg* 2006 Apr;104(4):469-79.
5. **Ahn ES**, Bookland M, Carson BS, Weingart JD, Jallo GI. The Strata Programmable Valve For Shunt-Dependent Hydrocephalus: The Pediatric Experience at a Single Institution. *Childs Nerv Syst* 2007 Mar;23(3):297-303.
6. **Ahn ES**, Aarabi B. Posttraumatic locked-in syndrome from a pontomedullary contusion: case report. *J Trauma* 2007 Aug;63(2):420-3.
7. **Ahn ES**, Robertson CL, Vereczki V, Hoffman GE, Fiskum G. Normoxic ventilatory

- resuscitation following controlled cortical impact reduces peroxynitrite-mediated protein nitration in the hippocampus. *J Neurosurg.* 2008 Jan;108(1):124-31.
8. Darwish RS, **Ahn E**, Amiridze NS. Role of Transcranial Doppler in Optimizing Treatment of Cerebral Vasospasm in Subarachnoid Hemorrhage. *J Intensive Care Med.* 2008 Jul-Aug; 23(4):263-7.
  9. Noggle JC, Sciubba DM, Nelson C, Garcés-Ambrossi GL, **Ahn E**, Jallo GI. Supraciliary keyhole craniotomy for brain abscess debridement. *Neurosurg Focus.* 2008;24(6):E11.
  10. Parker SL, Attenello FJ, Sciubba DM, Garces-Ambrossi GL, **Ahn E**, Weingart J, Carson B, Jallo GI. Comparison of shunt infection incidence in high-risk subgroups receiving antibiotic-impregnated versus standard shunts. *Childs Nerv Syst.* 2009 Jan;25(1):77-83.
  11. Aarabi B, Hesdorffer DC, Simard JM, **Ahn ES**, Aresco C, Eisenberg HM, McCunn M, Scalea T. Comparative study of decompressive craniectomy after mass lesion evacuation in severe head injury. *Neurosurgery.* 2009 May;64(5):927-39
  12. Shakur SF, McGirt MJ, Johnson MW, Burger PC, **Ahn E**, Carson BS, Jallo GI. Angiocentric glioma: a case series. *J Neurosurg Pediatr.* 2009 Mar;3(3):197-202.

## EXTRAMURAL FUNDING

### *Previous*

8/29/03 – 3/31/04

Efficacy and Safety Evaluation of a Single Intravenous Dose of Dexanabinol in Patients Suffering from Severe Traumatic Brain Injury

PH-2000-1 (US)

Total direct cost: \$80,000

Pharmos Corporation

PI: Bizhan Aarabi, M.D.

Co-Principal Investigator

## EDUCATIONAL ACTIVITIES

### **Educational publications**

#### *Review articles*

1. Welsh JP, **Ahn ES**, Placantonakis DG. Is autism due to brain desynchronization? *Int J Dev Neurosci.* 2005 Apr-May;23(2-3):253-63.
2. Frazier JL, **Ahn ES**, Jallo GI. Management of brain abscesses in children. *Neurosurg Focus.* 2008;24(6):E8.
3. Frazier JL, Goodwin CR, **Ahn ES**, Jallo GI. A review on the management of epilepsy associated with hypothalamic hamartomas. *Childs Nerv Syst.* 2009 Apr;25(4):423-32.

#### *Book chapters*

1. **Ahn E**, Chiu WC, Wintermark M, Aarabi B, Eisenberg H. Minimally Invasive Procedures in Traumatic Brain Injury, in Proctor MR, Black PM (eds): *Minimally Invasive Neurosurgery.*

- Totowa, N.J., Humana Press, 2005, pp 401-422.
2. **Ahn ES**, Robertson CL, Vereczki V, Hoffman GE, Fiskum G. Synthes Award for Resident Research on Brain and Craniofacial Injury: Normoxic ventilatory resuscitation following controlled cortical impact reduces peroxynitrite-mediated protein nitration in the hippocampus, in *Clinical Neurosurgery*, Vol. 52. Baltimore, MD, Lippincott Williams and Wilkins, 2005, pp 348-356.
  3. **Ahn ES**, Scott RM. Transcendent Leadership: Recent Advances in Pediatric Neurosurgery, in *Clinical Neurosurgery*, Vol. 54. Baltimore, MD, Lippincott Williams and Wilkins, 2007, pp 19-22.
  4. Davies KG, **Ahn E**. Epilepsy: Surgery Perspective, in Chin LS (ed): *Principles and Practice of Stereotactic Radiosurgery*. Springer, 2008, pp 583-592.
  5. **Ahn ES**, Proctor M. Intracranial epidural hematoma in children: Clinical features, evaluation, and management, in Basow DS (ed): *UpToDate*. Waltham, MA, UpToDate, 2008.
  6. **Ahn ES**, Proctor M. Intracranial epidural hematoma in children: Epidemiology, anatomy, and pathophysiology, in Basow DS (ed): *UpToDate*. Waltham, MA, UpToDate, 2008.
  7. Baird CJ, Noggle JC, **Ahn ES**. Fenestration of Cystic Collections, in Jallo G, et al (eds): *Neuroendoscopy of the Central Nervous System*. San Diego, CA, Plura Publishing, Inc., 2009, pp 57-79.
  8. **Ahn ES**. Colloid Cysts, in McKhann GM, Huang J, Choudhri TF, Connolly ES (eds): *Fundamentals of Operative Techniques in Neurosurgery*, (in press)
  9. Carson BS, Rigamonti, **Ahn ES**. Achondroplasia and Other Dwarfism, in Winn R, et al: *Youmans Neurological Surgery, 6/e*, (in press)

#### *Editorials, book reviews, other media*

1. **Ahn ES**, Chin LS. Book Review: *Hemostasis and Fleece-Bound Sealing in Neurosurgery*. Young Neurosurgeons' News, Spring 2006 Issue.  
[https://www.aans.org/young\\_neurosurgeons/spring\\_06.asp](https://www.aans.org/young_neurosurgeons/spring_06.asp)
2. **Ahn ES**, Chin LS. Training Neurosurgical Residents in Pediatrics: Recent Nationwide Trends Create Challenges, *AANS Bulletin*. 2007; Vol. 16, No. 1: 13.

#### **Abstracts**

##### *Oral presentations*

1. **Ahn ES**, Welsh JP. Inferior olive optimizes but is not required for associative learning as measured by eyeblink conditioning. Society for Neuroscience Annual Meeting, Miami Beach, FL, October 1999.
2. **Ahn ES**, Fiskum G. Normoxic Ventilatory Resuscitation following Controlled Cortical Impact Reduces Reactive Oxygen Species-mediated Protein Nitration in the Hippocampus. CNS Annual Meeting, San Francisco, CA, October 2004.
3. Raju M, **Ahn E**, Smith ER. Acute Clival and Spinal Subdural Hematoma with Spontaneous Resolution. New England Neurosurgical Society, Woodstock, VT, February 2005.
4. **Ahn ES**, Robertson CL, Fiskum G. Normoxic Ventilatory Resuscitation following Controlled Cortical Impact Reduces Reactive Oxygen Species-mediated Protein Nitration in the Hippocampus. Southern Neurosurgical Society Annual Meeting, Key West, FL, March 2005.
5. **Ahn ES**, Bookland M, Jallo GI. Experience with the Strata Programmable Valve in Shunt-dependent Children. CNS Annual Meeting, Boston, MA, October 2005. **Ahn ES**, Bookland M,

- Carson BS, Weingart JD, Jallo GI. The Strata Programmable Valve For Shunt-Dependent Hydrocephalus: The Pediatric Experience at a Single Institution. AANS/CNS Section on Pediatric Neurological Surgery Annual Meeting, Orlando, FL, December 2005. **Ahn ES**, Smith ER, Chapman AE, Robertson RL, Scott RM. Chorea in association with moyamoya syndrome: Results of surgical revascularization and a proposed clinicopathological correlation. AANS/CNS Section on Pediatric Neurological Surgery Annual Meeting, Denver, CO, December 1, 2006.
8. **Ahn ES**, Goumnerova L. Endoscopic biopsy of brain tumors in children. AANS Annual Meeting, Washington, D.C., April 16, 2007.
  9. **Ahn ES**, Goumnerova L. Endoscopic biopsy of brain tumors in children: Diagnostic success and utility in guiding treatment strategies. Korean Society for Pediatric Neurosurgery Annual Meeting, Seoul, Korea, May 2, 2008.
  10. Mehta V, Attenello FJ, Garces-Ambrossi GL, Chaichana KL, **Ahn ES**, Carson BS, Jallo GI. Suboccipital decompression for Chiari I malformation: Outcome comparison of duraplasty with expanded polytetrafluoroethylene dural substitute versus pericranial autograft. AANS/CNS Section on Pediatric Neurological Surgery Annual Meeting, Spokane, WA, December 2008.
  11. Attenello FJ, McGirt MJ, Samuels R, Sutter EG, Bydon A, Gokaslan Z, **Ahn ES**, Carson BS, Jallo GI. Surgical management of pediatric tethered cord syndrome with and without duraplasty: Neurological outcome and incidence of retethering after 115 consecutive cases. AANS/CNS Section on Pediatric Neurological Surgery Annual Meeting, Spokane, WA, December 2008.
  12. Attenello FJ, Parker SL, Garces-Ambrossi GL, Sciubba DM, **Ahn ES**, Weingart JD, Carson BS, Jallo GI. Antibiotic-impregnated versus standard shunt systems are associated with decreased shunt infection in high-risk patient subgroups. AANS/CNS Section on Pediatric Neurological Surgery Annual Meeting, Spokane, WA, December 2008.
  13. Attenello FJ, Garces-Ambrossi GL, Sciubba DM, **Ahn ES**, Weingart JD, Carson BS, Jallo GI. Medical costs associated with shunt infections in patients receiving antibiotic-impregnated shunt versus standard catheters. AANS/CNS Section on Pediatric Neurological Surgery Annual Meeting, Spokane, WA, December 2008.
  14. Bettgowda C, Mehta V, Weingart J, Carson BS, Jallo GI, **Ahn ES**: Treatment of choroid plexus tumors: A 20-year institutional experience. AANS/CNS Section on Pediatric Neurological Surgery Annual Meeting, Spokane, WA, December 2008.
  15. **Ahn ES**, Burger I, Lagos R, Gomez J, Gregg L, Gailloud P. Normal deep venous drainage in vein of Galen aneurysmal malformations: Clinical implications in treatment strategies. AANS/CNS Section on Pediatric Neurological Surgery Annual Meeting, Spokane, WA, December 2008.
  16. McGirt MJ, Garces-Ambrossi GL, Mehta V, Parker SL, **Ahn E**, Weingart J, Carson B, Samdani A, Jallo GI. Pediatric tethered cord associated scoliosis: Incidence, time course, and factors associated with progression of spinal deformity after spinal cord untethering. NASS (North American Spine Society), San Francisco, CA, November 2009.

*Poster presentations*

1. **Ahn ES**, Sasaki T, Young W. The excitatory effect of NMDA on the dorsal column axons of neonatal rat spinal cords. NYU School of Medicine Student Research Poster Session, New York, NY, May 1998. MD-Candidate Prize
2. Darwish R, **Ahn ES**, Aarabi B, Fiskum G. Activated Caspase-3 immunoreactivity in specimens of cerebral cortex obtained after human traumatic brain injury. AANS Annual Meeting, Orlando, FL, May 2004.

3. Darwish R, **Ahn ES**, Aarabi B, Fiskum G. Detectable Levels of Cytochrome C and Activated Caspase 9 in Cerebrospinal Fluid after Human Traumatic Brain Injury. CNS Annual Meeting, San Francisco, CA, October 2004.
4. **Ahn ES**, Robertson CL, Fiskum G. Normoxic Ventilatory Resuscitation following Controlled Cortical Impact Reduces Reactive Oxygen Species-mediated Protein Nitration in the Hippocampus. National Neurotrauma Society Symposium, San Diego, CA, October 2004.
5. Darwish R, **Ahn ES**, Fahy BG, Fiskum G. Cytochrome C and Activated Caspase 9 in the Cerebrospinal Fluid after Human Traumatic Brain Injury. American Society of Anesthesiologists (ASA) Annual Meeting, Las Vegas, NV, October 2004.
6. **Ahn ES**, Smith ER. Acute clival and spinal subdural hematoma with spontaneous resolution: Clinical and radiographic correlation in support of a proposed pathophysiologic mechanism. CNS Annual Meeting, Boston, MA, October 2005.
7. Darwish R, **Ahn E**, Amiridze N. Evaluation of indices derived from transcranial Doppler for assessment of cerebral blood flow in patients with cerebral vasospasm. Society of Neurosurgical Anesthesia and Critical Care Annual Meeting, Atlanta, GA, October 2005.**Ahn ES**, Aldrich EF, DiPatri AJ. Pseudoaneurysm with intraparenchymal hemorrhage following an amusement park ride: Case report and review of literature. AANS/CNS Section on Pediatric Neurological Surgery Annual Meeting, Orlando, FL, December 2005.
9. Ferreira M, **Ahn E**, Frerichs KU, Proctor M, Smith ER. Report of intracranial vasospasm with subsequent stroke after subarachnoid hemorrhage in 22 month old child. AANS/CNS Section on Pediatric Neurological Surgery Annual Meeting, Denver, CO, November 2006.
10. Aarabi B, Hesdorffer DC, Simard M, **Ahn ES**, Eisenberg HM, McCunn M, Aresco C. Decompressive craniectomy in addition to hematoma evacuation and resective surgery for severe head injury. AANS Annual Meeting, Washington, D.C., April 2007.
11. Nahed B, Darbar A, **Ahn E**, Smith ER. Acute hydrocephalus secondary to obstruction of foramen of Monro and cerebral aqueduct by a choroid plexus cyst of the lateral ventricle. AANS Annual Meeting, Washington, D.C., April 2007.
12. **Ahn ES**, Goumnerova L. Endoscopic biopsy of brain tumors in children: Diagnostic success and utility in guiding treatment strategies. Children's Hospital Research Day, Boston, MA, May 30, 2007.

## Teaching

### *Clinical Instruction*

1. Johns Hopkins University Medical Tutorial. Clinical Instructor in Pediatric Neurosurgery for Undergraduate Pre-medicine students, Baltimore, MD, 2009-present.
2. Kennedy Krieger Institute Spinal Cord Injury Medicine Fellowship. Clinical Instructor, Baltimore, MD, 2009-present.

### *Workshops / Seminars*

1. Emergent neurosurgery training for US Air Force Combat Surgical Training and Response (C-STAR). Cadaver lab instruction. R Adams Cowley Shock Trauma Center, Baltimore, MD, 2002-2003.

## CLINICAL ACTIVITIES

## **Certification**

### *Licensure*

2006 Commonwealth of Massachusetts Board of Registration in Medicine, Lic.# 227305  
2007 - present The Board of Physicians of the State of Maryland, Lic #D0066555

### *Boards*

Board eligible American Board of Neurological Surgery

## **ORGANIZATIONAL ACTIVITIES**

### **Professional Societies**

2001-present American Association of Neurological Surgeons  
2001-present Congress of Neurological Surgeons

## **RECOGNITION**

### **Awards, Honors**

2005 Augustus McCravey Resident Award Paper, Southern Neurosurgical Society  
2004 Synthes Award for Resident Research in Brain and Craniofacial Injury, AANS/CNS Section on Neurotrauma and Critical Care  
2004 AANS/CNS Resident Traveling Fellowship in Pediatric Neurosurgery, Childrens Hospital Boston  
2000 Graduated with Honors in Physiology and Neuroscience, New York University School of Medicine  
1999 Myoclonus Foundation Graduate Student Fellowship  
1998 MD-Candidate Prize in New York University School of Medicine Student Research Poster Session  
1996 Graduated *Cum Laude* in a combined concentration of Biology and East Asian Studies, Harvard University  
1992-1996 John Harvard Scholarship, Harvard College Scholarship

### **Invited talks, panels**

1. Intracerebral Hemorrhage. University of Maryland Department of Neurology Resident Lecture Series, Baltimore, MD, August 2003.
2. Intracranial Pressure Monitoring. University of Maryland Department of Neurology Resident Lecture Series, Baltimore, MD, August 2003.
3. Cerebral Aneurysms. University of Maryland Rehabilitation Medicine Division Inservice, Baltimore, MD, April 24, 2006.

4. Cerebral Arteriovenous Malformations. The Children's Hospital, Boston, Neurocare Nurses Inservice, Boston, MA, November 16, 2006.
5. The Surgical Treatment of Epilepsy in Children. New York Medical College Department of Neurosurgery Lecture, Valhalla, NY, December 11, 2006.
6. Endoscopic biopsy of brain tumors in children: Diagnostic success and utility in guiding treatment strategies. Children's Hospital Boston Inaugural Shillito Fellowship Day, Boston, MA, May 18, 2007.
7. Endoscopic biopsy of brain tumors in children: Diagnostic success and utility in guiding treatment strategies. The Johns Hopkins University Department of Neurosurgery Grand Rounds, Baltimore, MD, November 1, 2007.
8. The Surgical Management of Moyamoya Syndrome. The Johns Hopkins University Pediatric Neurology Grand Rounds, Baltimore, MD, November 14, 2007.
9. Craniopharyngiomas in children: Surgical considerations. The Johns Hopkins University Department of Neurosurgery Grand Rounds, Baltimore, MD, December 13, 2007.
10. The Evaluation and Management of Pediatric Spinal Injury. The Johns Hopkins University Department of Neurosurgery Grand Rounds, Baltimore, MD, January 31, 2008.
11. Antibiotic Impregnated Shunt Catheters in the Treatment of Pediatric Hydrocephalus. DePuy Day, the International Fair of Health and Technologies Meditec 2008, Bogotá, Colombia, April 4, 2008.
12. Endoscopic biopsy of brain tumors in children: Diagnostic success and utility in guiding treatment strategies. DePuy Day, the International Fair of Health and Technologies Meditec 2008, Bogotá, Colombia, April 4, 2008.
13. Craniopharyngiomas in children: Surgical considerations. Asan Medical Center, Department of Neurosurgery Grand Rounds, Seoul, Korea, May 1, 2008.
14. Antibiotic Impregnated Shunt Catheters in the Treatment of Pediatric Hydrocephalus. Korean Society for Pediatric Neurosurgery Annual Meeting, Seoul, Korea, May 2, 2008.
15. Spina Bifida Update. Southern Maryland Hospital Center Grand Rounds, Clinton, MD, June 25, 2008.
16. Pediatric Neurosurgery. Johns Hopkins University Alpha Epsilon Delta Pre-Health Honor Society, Conversations in Medicine Series. Baltimore, MD, October 27, 2008.
17. Adjustable Valves in the Treatment of Pediatric Shunt-dependant Hydrocephalus. Society of Nervous System Surgery Annual Meeting. Antalya, Turkey, November 8, 2008.
18. Shunt Infections. The Johns Hopkins University Pediatric Emergency Department Lecture, Baltimore, MD, December 23, 2008.
19. Plagiocephaly and Craniosynostosis: The Flat-out Truth. The Johns Hopkins University Department of Neurosurgery Grand Rounds, Baltimore, MD, February 19, 2009.
20. Plagiocephaly and Craniosynostosis: The Flat-out Truth. Greater Baltimore Medical Center Department of Pediatrics Grand Rounds, Baltimore, MD, February 19, 2009.
21. Fetal Ventriculomegaly: Current Management, Goals, and Expectations. The Johns Hopkins University High Risk Obstetrics Grand Rounds, March 11, 2009.
22. Evaluation for Shunt Malfunction in Children with Hydrocephalus. The Johns Hopkins University Nuclear Medicine Grand Rounds, April 29, 2009.
23. Surgical Revascularization for Moyamoya Syndrome associated with Sickle Cell Disease. The Johns Hopkins University Department of Neurosurgery Grand Rounds, Baltimore, MD, April 30, 2009.
24. Evaluation for Shunt Malfunction in Children with Hydrocephalus. The Johns Hopkins University Department of Neurosurgery Grand Rounds, Baltimore, MD, July 16, 2009.
25. Ventriculosubgaleal Shunts. The Johns Hopkins University Neonatal Intensive Care Unit Nurses In-Service, July 16, 2009.

26. Plagiocephaly and Craniosynostosis: The Flat-out Truth. Georgetown University Department of Pediatrics Grand Rounds, Washington, DC, July 24, 2009.