

## Curriculum Vitae

### **MALINI VISALAM NARAYANAN**

CHIEF OF NEUROSURGERY, UNIVERSITY OF MARYLAND PRINCE GEORGE HOSPITAL

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**LANGUAGES**                      ENGLISH, TAMIL

### **EDUCATION**

**Bachelor of Arts**, University of Massachusetts, Amherst, MA, 1989. *summa cum laude*,

Department of Electrical Engineering and Computer Science

**Master of Science**, Massachusetts Institute of Technology, Department of Electrical Engineering and Computer Science, , Cambridge, MA, 1993.

**Doctor of Medicine**, University of Chicago's Pritzker School of Medicine 1998

### **POSTGRADUATE MEDICAL EDUCATION (RESIDENCIES, FELLOWSHIPS)**

**University of Chicago**, Comer Children's Hospital, Chicago, IL, Chief Resident, Neurosurgery Residency, 2006 – 2007

**University of Chicago**, Comer Children's Hospital, Chicago, IL, Pediatric Neurosurgery Fellowship, 2005 – 2006

**Harvard Medical School**, Brigham and Women's Program and Children's Hospital, Boston, MA, Surgical Internship, 1998 – 1999

**Harvard Medical School**, Brigham and Women's Program and Children's Hospital, Boston, MA, Neurosurgery Residency, 1999 – 2005

### **PRE AND POST-DOCTORAL FELLOWSHIPS**

1994                      National Institute of Health Summer Research Fellowship

1994                      National Eye Institute Travel Fellowship

1993                      Princeton Biophysics Lecture Series

1988                      MIT Lincoln Laboratories Summer Fellowship: Circuit design of a pulsed rf generator with frequencies ranging from 2-8 ghz

### **MEDICAL LICENSURE**

2018-2021                      State of Maryland

2017-2020                      State of Virginia

XXX-2020                      Commonwealth of Pennsylvania Medical License

2016                              State of Illinois (not renewed)

2016                              State of Ohio (not renewed)

2015                              State of Michigan (not renewed)

## ***PRACTICE LOCATIONS***

Doctor's Community Hospital, MD  
Medstar Montgomery General Hospital  
Prince George Hospital, Level trauma 1,  
Washington Adventist Hospital  
Surgi-center of Greenbelt

## ***AWARDS AND COMMENDATION IN MEDICINE***

2018 Top Doctor 2018, Neurosurgery  
2017 America's Top Surgeon 2017, Neurosurgery, Consumer's Research Council of America  
2017 Leading Physicians of the World, Neurosurgery, Greenbelt, MD  
2015 Washingtonian Top Physician 2015, spine surgery  
2013 Patient Choice Award  
2013 Worldwide Who's Who  
2007 America's Top Surgeon. Consumer's Research Council of America

## ***PAST POSITIONS***

1. Minimally Invasive Spine Surgeon & General Adult Neurosurgeon, affiliate (not employee) of Advanced Pain Management Services/American Spine. 20680 Seneca Meadows Pkwy, suite 200, Germantown, MD 20876 [www.americanspinemd.com](http://www.americanspinemd.com), Ph: 240-629-3939. 05/01/11 - 07/01/15
2. Covering Pediatric Neurosurgeon, Locum Tenens, Barton Associate, Dayton Children's Medical Center, 1 Children's Plaza, Dayton Ohio, 45404, Feb – May 2012. Nov 20,2012-Dec 3, 2012 (24hr call)
3. Covering Pediatric Neurosurgeon, Feb –May 2012, Locum Tenens, Barton Associates, Akron Children Hospital, 4-6 days/month 24-hour call from Feb-May, 2012.
4. Associate Director of Pediatric Neurosurgery, and Adult General Neurosurgeon, Mercy St. Vincent's Medical Center. 2213 Cherry Street, MOB 1, Suite 204, Toledo, OH 43608, Phone: 419-251-3672  
Fax: 419-251-3837. Nov 2007-Dec 31, 2010.

## ***PROFESSIONAL SOCIETIES AND ACTIVITIES***

2012-present Diplomat of American Board of Neurological Surgeons,  
1999-present Congress of Neurological Surgeons, active member,  
1998-2012 American Association of Neurological Surgeons (AANS)  
2012-present American Association of Neurological Surgeon - Fellow  
2018-present Society of Minimally Invasive Spine Surgery (SMISS)  
2018-present MedChi Maryland/ Montgomery County Medical Society

### ***CONTINUING MEDICAL EDUCATION EXPERIENCES/CONFERENCES***

1. Wilderness Medicine Field Course, August 11-12, 2018. Damascus MD
2. Optimizing Your Practice and Advanced Spine Coding Symposium August 24-25, 2018, Las Vegas, NV
3. *SMISS, SOCIETY FOR MINIMALLY INVASIVE SPINE SURGERY*, September 7-8, 2018, Las Vegas, NV.
4. Venice 2018: Endurance & Sports Medicine, Lifestyle Medicine, & Specialty Medicine. Oct 1-6, 2018, Venice, FL.
5. 12th Annual Meeting of Asia Pacific Cervical Spine Society. New Delhi, India, November 2018.
6. Spine 2018- 3<sup>rd</sup> International Conference on Spine and Spinal Disorders. Dubai, November 2018.
7. MISSICON 2018, Minimally Invasive Spine Surgeons of India. Hyderabad 2018.

### ***OUTREACH MEDICAL EXPERIENCES***

August 2001, International Medicine: General Surgery in Haiti with Dr. John Byrne, Senior Vice President Medical Operations, Chief Medical Officer CHI St. Luke's Health and Former Chief of Cardiac Surgery Brigham and Women's Hospital; and Dr. Paul Farmer, Founding Director, Partners in Health, Brigham and Women's Hospital, Harvard Medical School

### ***RESEARCH AWARDS AND COMMENDATIONS IN RESIDENCY AND FELLOWSHIP***

1. Third Place Prize in the Category of Pediatrics for "The Outcome of Reoperations in Chiari Patients with Foreign Body Grafts." AANS 76<sup>th</sup> Annual Meeting. 2006.
2. Certificate of Recognition, 2004 Best Written Neurosurgical Board Score in Residency, Harvard Medical School, Brigham and Program and Children's Hospital, 2003.
3. CNS Resident Research Award, Nationally Best Resident Research Paper at the CNS Conference, Congress of Neurologic Surgeons, 2003.
4. CNS Cerebrovascular Sectional Award, Congress of Neurologic Surgeons, 2002.
5. Excellence in Resident Teaching, Harvard Medical School, 2000.

### ***AWARDS AND COMMENDATION IN OTHER FIELDS***

1. Outstanding Summer Research Award, University of Chicago, Pritzker School of Medicine, 1994.
2. 2<sup>nd</sup> Place National Science Foundation Fellowship Award, 1990.
3. Senior Leadership Award, University of Massachusetts, Department of Electrical Engineering and Computer Science, 1989.
4. United Technologies Outstanding Woman in Engineering Award, University of Massachusetts, 1989.
5. Kappa Nu Most Outstanding Senior Award, University of Massachusetts, 1989.

6. 2<sup>nd</sup> Place National Science Foundation Fellowship Award, 1989.

### ***PUBLICATIONS/ABSTRACTS/PRESENTATIONS IN GENERAL NEUROSURGERY***

1. Narayanan M, Ross, C. Presentation Lecture. Severe Cervical Cord Compression: Is There an Argument to Watch? 12th Annual Meeting of Asia Pacific Cervical Spine Society. New Delhi, India, November 2018.
2. Narayanan M. Poster. Odontoid Fractures: To Screw or Not to Screw, That is the Question. 12th Annual Meeting of Asia Pacific Cervical Spine Society. New Delhi, India, November 2018.
3. Narayanan M, Ross, C. Poster. Interesting Cases in Revision Spine Surgery: Expect the Unexpected. 12th Annual Meeting of Asia Pacific Cervical Spine Society. New Delhi, India, November 2018.
4. Narayanan M, Ross C. Poster. Posterior Occipital Cervical Dislocation. Spine 2018-3<sup>rd</sup> International Conference on Spine and Spinal Disorders. Dubai, November 2018.
5. Narayanan M. Poster. Posterior Occipital Cervical Dislocation. Spine 2018-3<sup>rd</sup> International Conference on Spine and Spinal Disorders. Dubai, November 2018.
6. Narayanan, M. Presentation Lecture: Cervical Myelopathy. Venice 2018: Endurance & Sports Medicine, Lifestyle Medicine, & Specialty Medicine. October, 2018.
7. Narayanan, M. Presentation Lecture: Hemorrhagic Stroke. Venice 2018: Endurance & Sports Medicine, Lifestyle Medicine, & Specialty Medicine. October, 2018.
8. Narayanan, M. Presentation Lecture: Neurosurgical Pearls: Cases from the My Practice for the Non-Neurosurgeon. Venice 2018: Endurance & Sports Medicine, Lifestyle Medicine, & Specialty Medicine. October 2018.
9. Narayanan, M. Presentation Lecture: Neuroanatomy Case Correlation: Neurosurgical Jeopardy. Venice 2018: Endurance & Sports Medicine, Lifestyle Medicine, & Specialty Medicine. October 2018.

### ***PUBLICATIONS/ABSTRACTS/PRESENTATIONS IN MINIMALLY INVASIVE SPINE***

1. **Narayanan M**, Ross C. Presentation. MIS in Trauma. Spine 2018- 3<sup>rd</sup> International Conference on Spine and Spinal Disorders. Dubai, November 2018.
2. **Narayanan, M**. Streamline Minimally Invasive Spine in Trauma. RTI Presentation at RTI. January 2018.
3. **Narayanan, M** and Osman S. “Least Invasive Percutaneous Transforaminal Lumbar Decompression and Fusion with Optimesh Interbody Devise – A Report of Clinical Experience.” 83rd AANS Annual Scientific Meeting Electronic Poster Submission, April 2015.
4. **Narayanan, M** and Osman S. “A Uncommon Use of the Optimesh Device in Vertebral Body Fractures, Minimally Spine Technique.” 83rd AANS Annual Scientific Meeting Electronic Poster Submission, April 2015.

5. Percutaneous Endoscopic Trans-Iliac Approach to L5-S1 Disc and Foramen - A Report of Clinical Experience. International Journal of Spine Surgery, Osman SG<sup>1</sup>, Sherlekar S<sup>1</sup>, Malik A<sup>1</sup>, Winters C<sup>1</sup>, Grewal PK<sup>1</sup>, **Narayanan M<sup>1</sup>**, Gemechu N<sup>1</sup>. Int J Spine Surg. 2014 Dec 1;8.
6. Said G Osman, M.D., F.A.A.O.S., F.R.C.S.Ed., **Malini Narayanan, M.D., M.S.**, Atif Malik, M.D., Sandeep Sherlekar, Charles Winters, M.D., Prabhdeep K Grewal, M.D., Nigussie Gemechu, M.A. Anatomic Treatment-based Classification of Diseased Lumbar Spinal Motion-segment. International Journal of Neuro & Spinal Sciences, Vol. 1, Issue 1, Oct-Dec. 2013.
7. Said G Osman, M.D., F.A.A.O.S., F.R.C.S.Ed.(ortho), **Malini Narayanan, M.D.**, Atif Malik, M.D., Sandeep Sherlekar, M.D., Charles Winters, M.D., Nigussie Gemechu, M.Sc. "Minimally Invasive Treatment-based Classification of Diseased Lumbar Spinal Motion-segmen". Presented at multiple posters around the world, including Dubai, Orlando. 2014-2015.

### ***PUBLICATIONS/ABSTRACTS/PRESENTATIONS IN PEDIATRIC NEUROSURGERY***

1. **Narayanan, M.** "Pediatric Grand Rounds: The Pediatric Posterior Fossa." University of Toledo, Pediatric Grand Rounds, St. Vincent Medical Center. January, 2008.
2. **Narayanan M, Healy M.** Rare Vascular Anatomy In A Child With Onset Of Trigeminal Neuralgia. AANS/CNS Section on Pediatric Neurological Surgery 37<sup>th</sup> Annual Meeting in Spokane, WA, 2008.
3. **Narayanan M, Rosen D, Postma S, Frim D.** Outcome of Reoperations in Chiari Patients with Foreign Body Grafts." Congress of Neurologic Surgeons Annual Meeting, Feb, 2008.
4. **Narayanan M, Frim D.** Indirect Bypasses for Moyamoya Syndrome. Neurosurgery Operative Atlas 2007.
5. **Narayanan M, Yamini B. Craniopharyngiomas – An Update. Expert Review. Neurotherapeutics 2007.**
6. **Yamini B, Narayanan M.** Craniopharyngiomas: an update. Expert Rev Anticancer Ther; 9:s85-92 Review, 2006.
7. **Narayanan M, Frim D.** "Craniosynostosis and Elevated ICP". AANS/CNS Section on Pediatric Neurological Surgery 2006 Annual Meeting.
8. **Narayanan M, Frim D.** "SYMPTOMATOLOGY of CHIARI MALFORMATION TYPE 1 in PATIENTS UNDER AGE 5." AANS/CNS Section on Pediatric Neurological Surgery 2006 Annual Meeting.
9. **Narayanan M, Curry D, Yamini B, Bardo D, Frim D.** "Use of Perfusion MRI for Operative Decision Making in Moyamoya Revascularization." Congress of Neurological Surgeons, Chicago, IL, October 2006.
10. **Narayanan M.** "Pediatric Trauma." Rehabilitation Grand Rounds, University of Chicago, September 2006.
11. **Narayanan M.** "Moyamoya Disease and Syndrome." Neurosurgery Resident Teaching Conference, University of Chicago, June 2006.
12. **Narayanan M.** "Glass in the Buttock: Case Presentation." Surgery Grand Rounds, University of Chicago, January 2006.

13. **Narayanan M**, Goumnerova L. "Eating Dysfunction following Third Ventriculostomy"; American Association of Neurological Surgeons Annual Meeting. 2001.
14. **Narayanan M**, Munshi I, Short MP, Tonsgard J, Sullivan C, and Frim D. A Child with Neurofibromatosis-I and a Lumbar Epidural Arteriovenous Malformation. *Journal of Child Neurology*. Vol 15, No 4, 273-275, 2000.

#### ***PUBLICATIONS/ABSTRACTS/PRESENTATIONS IN BASIC SCIENCE***

1. Wang X, **Narayanan M**, Bruey JM, Rigamonti D, Cattaneo E, Reed JC, Friedlander RM. Protective role of Cop in Rip2/caspase-4-mediated HeLa cell. *Biochim Biophys Acta*; 1762(8):742-54, 2006.
2. Kristal BS, Stavrovskaya IG, **Narayanan MV**, Krasnikov BF, Brown AM, Beal MF, Friedlander RM. The mitochondrial permeability transition as a target for neuroprotection. *J Bioenerg Biomembr*; 36(4):309-12, 2005.
3. Stavrovskaya I, **Narayanan M**, Zhang W, Krasnikov B, Heemskerk J, Young SS, Blass JP, Brown AM, Beal MF, Friedlander RM, and Kristal BS. Clinically-approved heterocyclics act on a mitochondrial target and reduce stroke-induced pathology. *J exp Med*;200(2):211-22, 2004.
4. **Narayanan MV**, Zang W, Stavrovskaya IG, Kristal BS, Friedlander RM. Promethazine: a novel application as a neuroprotectant that reduces ischemia-mediated injury by inhibiting mitochondrial dysfunction. *Clin Neurosurg*; 51:102-7, 2004.
5. **Narayanan M**, Stavrovskaya I, Zhang W, Kristal BS, Friedlander RM. "Promethazine: a novel application as a neuroprotectant that reduces ischemia-mediated injury by inhibiting mitochondrial dysfunction." Penarium Session, Congress of Neurological Surgeons National Meeting, Denver, CO, October 2004.
6. Stavrovskaya I, Narayanan M, Zhang W, Boris F. Krasnikov BF, M. Flint Beal MF, Robert M. Friedlander RM, and Bruce S. Kristal BS. Clinically Approved Heterocyclics Delay Induction of Mitochondria Permeability Transition- A Potential Therapeutic for HD. National HDF Meeting, 2004.
7. Narayanan M, Friedlander RM. *What would you do?* Case Presentation with Survey by Neurosurgeon, A Section of the Cerebrovascular Newsletter. 2003-2004.
8. Zhang W, **Narayanan M**, Friedlander RM. Additive neuroprotective effects of minocycline with creatine in a mouse model of ALS. *Ann Neurol*; 53(2): 267-70, 2003.
9. Zhang WH, Wang X, **Narayanan M**, Zhang Y, Huo C, Reed JC, Friedlander RM. Fundamental role of the Rip2/caspase-1 pathway in hypoxia and ischemia-induced neuronal cell death. *Proc Natl Acad Sci USA*. 100(26): 16012-7, 2003.
10. **Narayanan M**. Development of a Silicon Retinal Implant: cortical evoked potentials following fpcal stimulation of the rabbit retina with light and electricity. *Clinical Neurophysiology*. Volume 110. Issue 9. Pgs 1545-1553, 1999.
11. **Narayanan M**. "Neuroapoptosis." Neurosurgery Grand Rounds, University of Chicago, May 2005.
12. **Narayanan M**. Development of a retinal implant: applications of the focal ERG to rabbits after surgical implantation of a retinal prosthesis. ARVO Annual Meeting Abstract Issue, Fort Lauderdale, Florida, Abstr 184,2:40. 1997.

13. **Narayanan M.** Optimal System for physiological monitoring of vision in rabbit retina after implanting a retinal prosthesis. Experimental Biology Conference, New Orleans, Louisiana, 1997.
14. **Narayanan M,** Lee BB, Smith VC, Pokorny J. Model of temporal processing in macaque retinal ganglion cells. ARVO Annual Meeting Abstract Issue. Fort Lauderdale, Florida, Abstr #4281, 36:5931. 1995.
15. **Narayanan M.** Evaluation of the VEP and ERG in rabbits after surgical implantation of prototypical retinal prosthesis. Vision Research, Programme and Abstracts, An International Journal for Functional Aspects. 35:s239. 1995.
16. **Narayanan M,** Rizzo JF, Edell D, Wyatt JL. Development of a silicon retinal implant: cortical evoked potentials following focal stimulation of the rabbit retina with light and electricity. ARVO Investigative Ophthalmology and Visual Sciences, Annual Meeting Abstract Issue, Sarasota, Florida, v38,n4,1994.