

Puya Alikhani, M.D.

University of South Florida, Morsani College of Medicine, Tampa, Florida

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Citizenship

US Citizen

Education

Texas A&M Health Science Center College of Medicine, 2009, Doctor of Medicine, Honors 2005-2009

University of Texas, Bachelor of Arts in Biology, 2005, Summa Cum Laude 2001-2005

Houston Community College, Associate of Arts in Natural Science, 2002, Honors 2000-2002

Postgraduate Training

Alfred DuPont Hospital, Advanced Training in Pediatric Scoliosis Deformity, 2018 02/2018-06/2018

University of South Florida, Morsani College of Medicine, Department of Neurosurgery and Brain Repair, Skull Base Surgery Advanced Training 2013-2014

University of South Florida, Morsani College of Medicine, Department of Neurosurgery and Brain Repair, Neurosurgery Residency 06/2009-06/2016

Board certified neurosurgeon 11/2020

Awards, Honors, Honorary Society Memberships

Dean's List, Houston Community College 2000-2002

Dean's List, University of Texas at Austin 2002-2005

Texas Exes Scholarship 09/2004

Retired Faculty and Staff Scholarship, University of Texas at Austin 02/2005

Texas A&M Health Science Center Scholarship	05/2006
Iranian American Medical Association Scholarship	11/2007
Southern Medical Association Scholarship	01/2008
American Medical Association Scholarship	07/2009
Alpha Omega Alpha Honor Medical Society	2009
John M. Thompson, M.D. Golden Apple Award for Teaching, Resident of the year, USF Neurosurgery	06/2016
John M. Thompson, M.D. Golden Apple Award for Teaching, Faculty of the year, USF Neurosurgery	06/2020

Appointments (academic, administrative, hospital, other)

Director of Spine Division, Co-director of Complex Spine Fellowship, University of South Florida, Morsani College of Medicine	08-2021- Present
Associate Professor of Neurosurgery, Department of Neurosurgery and Brain Repair, University of South Florida, Morsani College of Medicine	02/2021- Present
Assistant Professor of Neurosurgery, Department of Neurosurgery and Brain Repair, University of South Florida, Morsani College of Medicine	08/2016- 01/2021
Assistant Program Director, Neurological Surgery Residency	2021- Present
Neurosurgery Vice Chair, Tampa General Hospital	2020- Present
Neurosurgery Attending Physician, Tampa General Hospital	2016-Present
Neurosurgery Attending Physician, VA James A Haley Hospital	2016-Present
Neurosurgery Attending Physician, Advent Health, Tampa	2018-Present
Course Director, MDI8640 Neurosurgery Acting Internship, University of South Florida Morsani College of Medicine	2021-present

Teaching, Lecture

Undergraduate Medical

Mentorship, research and publication, USF medical students interested in Neurosurgery

Dr. Sananthan Siviknathan: Neurosurgery Resident at Washington School of Medicine. Published 4 papers during his medical school under my mentorship. 2016-2018

Dr. Gautam Rao: Neurosurgery Resident at USF. Published 2 paper during his medical school under my mentorship. 2018-2019

Dr. Elliot Pressman: First Year Neurosurgery Resident at USF. Published 4 papers and 3 papers under review under my mentorship. 2018-Present

Dr. Mohammad Nour El Dine: General Surgery Resident at USF. Published 5 papers and 5 papers under review under my mentorship. 2018-Present

Jeffrey Farooq, Second Year Medical Student. 2020- Present

Faculty at USF Medical Students Doctoring Curriculum, Doctoring Clinical Experience (DCE), Med-3, 5-8 students per class 05/2020-Present

Graduate Medical/Hospital

Spinal Surgery Fundamental Techniques, Virtual Course for Junior Neurosurgery Residents during the COVID-19 Pandemic, 4 Residents/Fellows, USF Neurosurgery, Tampa General Hospital 03/2020-Present

Operative Room Visitation, International & Domestic Surgeons' Teaching

Dr. Hinojosa (Lima, Peru), Observed Adult Deformity Surgery and Iliac fixation 2/5/2019

Dr. Bhandarkar (Wisconsin), Observed Long Construct Fusion in Adult deformity Surgery and Kyphoplasty 8/19/2019

Chinese Delegation (five surgeons), Observed Multiple Deformity Surgeries, Minimally Invasive Spine Surgery 10/21/2019-10/23/2019

Dr. Meyer (Houston), Observed C1-2 screw placement 11/5/2019

Dr. Hazama (New York), Observed Minimally Invasive Lateral Surgery 11/24/2019

Teaching, Supervisory

Graduate Medical/Hospital

Core Faculty for Spinal Deformity and Minimally Invasive Surgery: 11/2018-
Enfolded Fellowship – Direct supervision of fellows, USF Present
Neurosurgery, Tampa General Hospital.
Fellows: Brooks Osburn, MD; Paul Krafft, MD; Paul McBride, MD

Weekly Spine Conference: Organizing and moderating lectures and 06/2018-
presentations, USF Neurosurgery, Tampa General Hospital Present

National, Regional, Local Courses – Teaching, Supervising, Directing

Course Director

Junior Skull Base USF course: Endoscopic and Open Skull Base 07/2016
Approaches, Tampa, Florida

First Fundamental Spine Course, USF Neurosurgery Residents, 01/2017
Tampa, Florida

Junior Skull Base USF course: Endoscopic and Open Skull Base 07/2017
Approaches, Tampa, Florida

Second Fundamental Spine Course, USF Neurosurgery Residents, 01/2018
Tampa, Florida

Minimally Invasive Approaches to Spine Surgery, USF Neurosurgery 04/2019
Residents, Tampa, Florida

Third Fundamental Spine course, USF Neurosurgery Residents 04/2019
Tampa, Florida

Course Teaching/Faculty

Master's Course in Skull Base Surgery: Endoscopic Approach to the 03/2015
Petrous Apex, Tampa, Florida

Master's Course in Skull Base Surgery, Tampa, Florida 03/2016

Master's Course in Skull Base Surgery: Endoscopic Approach to the 03/2017
Anterior Cranial Fossa, Tampa, Florida

Endoscopic Lumbar Interbody Fusion, Boston, Massachusetts 11/2017

Lateral Approach to the Retroperitoneal Space: XLIF, San Diego, 11/2017
California

Lateral Approach to the Retroperitoneal Space, San Diego, California	03/2018
Adult Spinal Deformity Course, Palm Beach, Florida	11/2018
4 th Annual Principles and Techniques of Complex Spinal Reconstruction – A Hands-on Cadaveric Workshop, New York, New York	03/2019
Deformity Down and Under, Sydney, Australia	08/2019
Adult Spinal Deformity Surgery, Tampa, Florida	11/2019
Adult Minimally Invasive Lateral Surgery, Miami, Florida	01/2020
Minimally Invasive Lateral Surgery, Tampa, Florida	01/2020

CME Talks

Fundamentals of Minimally Invasive Spine Surgery, Advent Health, Tampa, Florida	12/2018
Mind and Heart Symposium, Advent Health, Tampa, Florida	02/2019
Opioid Minimization: Intraoperative Long-Lasting Bupivacaine, Advent Health, Tampa, Florida	04/2019
Principle of Pediatric Scoliosis Surgery, Tampa General Hospital	04/2021

Lectures by Invitation

National, Regional, Local

Reciprocal Interaction between Neuronal Progenitor and Endothelial Cells Modulate Development of Neurovascular Stem Cell Niche, Texas A&M Health Science Center, College Station, Texas	07/2006
Multifocal and Recurrent Subarachnoid Hemorrhage due to an Herbal Supplement Containing Natural Comorians, Congress of Neurological Surgeons Annual Meeting, San Diego, California	09/2007
Implementing Intraoperative Angiography for Aneurysm Surgery: Lessons Learned and Practical Considerations, Congress of Neurological Surgeons Annual Meeting, San Diego, California	09/2007
The Surgical Management of Trigeminal Neuralgia: Do We Practice What We Preach? North American Skull Base Society Meeting, San Diego, California	02/2014

The Subtemporal Approach to Suprasellar Craniopharyngiomas: A Case Series and Anatomical Correlations, North American Skull Base Society, San Diego, California	02/2014
Subtemporal Approach to the Petroclival Region – A Comparison of Anterior Petrosectomy, Tentorial Stitch, and Tentorial Incision: Anatomical Principles and Surgical Techniques, AANS Annual Meeting, San Francisco, California	04/2014
Spinal Pelvic Fixation, USF Spine Course, CAMLS, Tampa, Florida	03/2018
3-D Anatomy of Endoscopic Skull Base, Master Skull Base Course, Tampa, Florida	03/2018
Deformity Correction in Vertebral Osteomyelitis: A Case Series of Lateral Approaches, SOLAS Annual Meeting, San Diego, California	05/2018
Subsidence Rate with Titanium Cages in Lateral Lumbar Interbody Fusion, Southern Neurological Society, Key Largo, Florida	02/2019
Peer-to-Peer Spinal Deformity, Johnson & Johnson, Miami, Florida	02/2019
Ground Round Presentation, Challenging Spinal Deformity Cases, Medical College of Georgia, Augusta, Georgia	03/2019
Complex C1-2 Osteophyte Presenting with Severe Dysphagia and Ptosis, American Academy of Neurology Annual Meeting, Philadelphia, Pennsylvania	05/2019
Ground Round Presentation, Adult Spinal Deformity, USF Neurosurgery, Tampa General Hospital, Tampa	12/2019
Ground Round Presentation, Endoscopic Approaches to Skull Base, Moffit Hospital, Tampa	01/2020
Complex Spinal Deformity, National Residency Education Foundation, NREF/AANS, Barrow Neurological Institute, Phoenix, Arizona	02/2020
Pre-operative Neuromonitoring Complications, Scoliosis Research Society, Phoenix, Arizona (webinar)	09/2020
Intra-Operative Neuromonitoring, EMG alone in Lateral Lumbar Interbody Fusion, North America Spine Society (webinar)	09/2020
<u>International Speaker</u>	
Merging the Paraclival ICA with the Bouthillier Classification, European Skull Base Society Annual Meeting, Paris, France	11/2016

Endoscopic Approach to Lower Clivus: Medullary Cavernoma, World Federation of Latin America, Havana, Cuba	11/2017
Chin to Chest Deformity, Simposio Correntoso, Argentinian Orthopedic Society, Argentina	08/2018
Pediatric Torticollis, Simposio Correntoso, Argentinian Orthopedic Society, Argentina	08/2018
Artificial Disk Replacement, Simposio Correntoso, Argentinian Orthopedic Society, Argentina	08/2018
Adult Spinal Deformity, IMAST, Amsterdam, Netherland	05/2019
Interbody Cage Subsidence, Deformity Down and Under, Sydney, Australia	08/2019
Lateral Lumbar Interbody Fusion in 15 Min, Sydney, Australia	08/2019
Scoliosis Research Society, Montreal, Canada	09/2019
Fundamentals of Lateral Spine Surgery: XLIF, Virtual Global Spine Conference, WEBINAR	04/2020
Neuromonitoring during Lateral Spine Surgery, Virtual Global Spine Conference, WEBINAR	04/2020
Single Position Lateral Surgery, Prone Lateral, Spine Summit, CNS and AANS	08/2021

Clinical Activities or Innovations (specialty certification, professional licenses, practice activities, clinical innovations, technical and other scientific innovations)

Advanced Training in Microvascular Anastomoses, University of South Florida, Morsani College of Medicine, Department of Neurosurgery and Brain Repair	07/2016
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Published Bibliography

Peer-reviewed

Friedman, J.A., S.A. Taylor, W. McDermott, **P. Alikhani**. Multifocal and recurrent subarachnoid hemorrhage due to an herbal supplement containing natural coumarins. *Neurocrit Care*, 2007, 7:76-80.

Baaj, A.A., **P. Alikhani**, J. Sack, F.L. Vale, M.S. Greenberg. Drainage of a ventral epidural atlantoaxial abscess via the transoral approach. *J Clin Neurosci*, 2012, 19:1044-1045.

Sivakanthan, S., J.J. van Gompel, **P. Alikhani**, H.R. van Loveren, R. Chen, S. Agazzi. Surgical management of trigeminal neuralgia: use and cost-effectiveness from an analysis of the Medicare Claims Database. *Neurosurgery*, 2014, 75:220-226.

Van Gompel, J.J., **P. Alikhani**, M.H. Tabor, H.R. van Loveren, S. Agazzi, S. Froelich, A.S. Youssef. Anterior inferior petrosectomy: defining the role of endonasal endoscopic techniques for petrous apex approaches. *J Neurosurg*, 2014, 120:321-1325.

Van Gompel, J.J., **P. Alikhani**, A.S. Youssef, H.R. van Loveren, K.P. Boyev, S. Agazzi. Anterior petrosectomy: consecutive series of 46 patients with attention to approach-related complications. *J Neurol Surg B Skull Base*, 2015, 76:379-384.

Wong, R.H., K. De Los Reyes, **P. Alikhani**, S. Sivakanthan, J. van Gompel, H.R. van Loveren, S. Agazzi. The subtemporal approach to retroinfundibular craniopharyngiomas: a new look at an old approach. *Oper Neurosurg*, 2015, 11:495-503.

Alikhani, P., S. Sivakanthan, H.R. van Loveren, S. Agazzi. Paraclival or cavernous internal carotid artery: one segment but two names. *J Neurol Surg B Skull Base*, 2016, 77:304-307.

Alikhani, P., S. Sivakanthan, R. Ashour, M. Tabor, H.R. van Loveren, S. Agazzi. Endoscopic endonasal resection of a medullary cavernoma: a novel case. *Br J Neurosurg*, 2017, 1-3.

Krafft, P.R., Y.I. Mosley, **P. Alikhani**. Zero-profile hyperlordotic spacer for cervical deformity correction: case presentation and technical note. *Cureus*, 2019 11:e4097-e4097.

P. Krafft, B. Osburn, A. Vivas, G. Rao and **P. Alikhani**. Novel Titanium Cages for Minimally Invasive Lateral Lumbar Interbody Fusion: First Assessment of Subsidence. *J of Spine Surgery and Related Research*, 2019 Dec 20;4(2):171-177.

Alikhani, P., Y. Suradi, S. Amin, U. Amin. Complex C1-2 osteophyte presenting with severe dysphagia and ptosis. *Neurology*, 2020, 94:324-325.

Krafft, P.R., M.H.A. Noureldine, M.S. Greenberg, **P. Alikhani**. Minimally invasive lateral retropleural approach to the thoracic spine for salvage of a subsided expandable interbody cage. *World Neurosurg*, 2020, 135:58-62.

Noureldine, M.H.A., E. Pressman, P.R. Krafft, D.A. Smith, M.S. Greenberg, and **P. Alikhani**. The minimally invasive lateral

retropleural and retroperitoneal approaches in patients with thoracic and lumbar osteomyelitis: description of the techniques and a series of 14 patients. *World Neurosurg*, 2020, 6:S1878-8750.

Noureldine, M.H.A., T.B. Freeman, and **P. Alikhani**. Simultaneous sacroiliac joint fusion in patients with long lumbosacral constructs—case report and operative technique. *World Neurosurg*, 2020, 4:S1878-8750.

Noureldine, M.H.A., E. Pressman, P.R. Krafft, M.S. Greenberg, S. Agazzi, H.R. van Loveren, **P. Alikhani**. Impact of the COVID-19 Pandemic on neurosurgical practice at an academic tertiary referral center: a comparative study. *World Neurosurg*, 2020, 22:S1878-8750.

Noureldine, M.H.A., E. Pressman, M.S. Greenberg, S. Agazzi, H.R. van Loveren, and **P. Alikhani**. Neurosurgical service coverage during the COVID-19 Pandemic: the 'Battle Plan' at the University of South of Florida affiliate hospitals. *World Neurosurg*, 2020 ;138:600-602

Screven, R., M.H.A. Noureldine, P.R. Krafft, and **P. Alikhani**. Expandable titanium cages in the emergent treatment of severe spinal deformity secondary to osteomyelitis: a series of 3 complex cases. *Asian J Neurosurg*, March 2020.

Noureldine, M.H.A., E. Pressman, P.R. Krafft, M. Molcanyi, N.D. Tran, M.S. Greenberg, and **P. Alikhani**. Management of thoracic disc herniation using the minimally invasive lateral retropleural approach: technique illustration and clinical outcomes of 33 patients from a single academic center. *Oper Neurosurg*, May 2020.

P.R.Krafft, Noureldine, M.H.A, G.I. Jallo, S.A. Shah, **P. Alikhani**. Percutaneous lumbar pedicle fixation in young children with flexion-distraction injury: technical note. *Child Nervous System*, July 2020.

E. Pressman, B. Osburn, A. Vivas, P. Krafft, V. Ljubimov, L. Chen, R. Mhaskar, **P. Alikhani**. Rhabdomyolysis After Spinal Fusion Surgery: Management Schema and Prevention of a Catastrophic Complication. *British Journal of Neurosurgery*, 2020

E. Pressman, Noureldine, M.H.A., P.R. Krafft, M.S. Greenberg, S. J. Kumar, B. Mantei, S. Agazzi, H.R. van Loveren, **P. Alikhani**. The Retreat Back to Typical Practice from the 'Battle Plan' of the COVID-19 Pandemic: A Comparative Study in an Academic Neurosurgery Department. *World Neurosurgery* 2020

G. Flores, J. Kumar, Noureldine, M.H.A., J. Sack, **P. Alikhani**

Spontaneous Brainstem Hemorrhagic Stroke in the Setting of Novel Coronavirus Disease 2019 (COVID-19) – *Cureus, 2020*

Noureldine, M.H.A., E. Pressman, J. Kumar, N.D. Tran, M.S. Greenberg, and **P. Alikhani**. Sacroiliac Joint Arthropathy in Patients with Long Constructs and S2-Alar Iliac Instrumentation: Outcome of Partially versus Fully Threaded Screws. *Clinical Neurology and Neurosurgery 2021*

R. Screvens, E. Pressman, G. Rao, T. Freeman, P. Alikhani The Safety and Efficacy of Stand-Alone Lateral Lumbar Interbody Fusion for Adjacent Segment Disease in a Cohort of 44 Patients, *World Neurosurgery, May 2021*

Papers in Press

Improved Outcomes with Concurrent Instrumentation and Fusion of the Sacroiliac Joint in Patients with Long Lumbosacral Constructs
E. Pressman, P. McBride, J. Kumar, B. Osburn, **P. Alikhani**. The Prone Transposas Technique: A Technical Note. *World Neurosurgery*.

Noureldine, M.H.A., P.R. Krafft, E. Pressman, P. McBride, **P. Alikhani**. Posterior Percutaneous Sacroiliac Joint Fusion using Intra Operative Fluoroscopy, A case report and Technical Note. *World Neurosurgery*

P. Krafft, **P. Alikhani**, C. Agoris, A. Clark, Q. Tran, G. Rao, S. Sahebjan, N. Tran. Topical vancomycin reduces surgical site infections in patients subjected to craniotomy for primary brain tumor resection: a comprehensive cancer center experience. *Journal of Neurosurgery*.

Adhoc referee

Lumbar Disc Herniations Causing Contralateral Radicular Symptoms: Can They Be Described with Hypotenar Theory? *Neurosurgery Spine, 2018*

Vertebral Body Lipoma: An Unusual Pathology Treated with Kyphoplasty. *Neurosurgery Spine, 2018*

Cost-effectiveness and Quality of Life after Treatment of Lumbar Spinal Stenosis Is there still a role for Interspinous distractors? *Neurosurgery Spine, 2018*

Body Mass Index and Modified Glasgow Prognostic Score are Useful Predictors of Surgical Site Infection After Spinal Instrumentation Surgery: A consecutive Series. *Neurosurgery Spine, 2018*

Equal ratio ventilation reduces blood loss during posterior lumbar interbody fusion surgery. *Neurosurgery Spine, 2020*

Brain Metastases from Endometrial Cancer: Clinical Characteristics, Outcomes, and Review of the Literature. *Journal of Neuro-Oncology, 2020*

Book Chapters

Alikhani, P., A. Filis, F. Vrionis. Spinal Emergencies. In *Handbook of Spine Surgery* by Ali A. Baaj et al., Thieme, New York, NY, 2011.

De los Reyes, K., **P. Alikhani**, S. Agazzi, H.R. van Loveren. Surgical Exposure of the Cranial Nerves. In *Nerve and Nerve Injuries: Vol 2: Pain, Treatment, Injury, Disease and Future Directions*, ed. R. Shane Tubbs et al., Academic Press, London, UK, 2015, pp. 179-200.

Other Research and Creative Achievements

Co-investigator: Experimental models of developing neurovascular stem cell niche, Neuroscience Laboratory at Texas A&M Health Science Center	05/2006-05/2007
Co-investigator: Clinical study to investigate anemia in patients with bariatric surgery, Scott and White Memorial Hospital	09/2007-11/2007
Principal Investigator: Subtemporal Approach	2015-2018
Principal Investigator: Preoperative, Intraoperative and Postoperative Considerations in Spinal Surgery: The USF Experience	2016-Present
Principal Investigator: ISSG Prospective Deformity Registry	2017-Present
Principal Investigator: Titanium Cage Subsidence in Lateral Approach Surgery	2018-Present
Principal Investigator: Lateral Spinal Approaches to Vertebral Osteomyelitis/Discitis	2018-Present

Principal Investigator: AMS in XLIF 2018-Present

Principal Investigator: Neurosurgery in the COVID-19 Era 2020-Present

Service university, hospital/profession, scientific meetings, community service, society memberships, professional or scientific, international, national, regional, local, editorial positions

Member, Texas Medical Association	2005-2009
Member, Iranian American Medical Association	2005-2009
Member, American Medical Association	2005-2009
Member, Surgery Interest Group at Texas A&M Health Science Center	2005-2009
Member, Arthur C. Scott Surgical Society at Scott and White	2005-2009
Member, Alpha Omega Alpha Honor Medical Society	2008-Present
Member, American Association of Neurological Surgeons	2009-Present
Member, Congress of Neurological Surgery	2009-Present
Member, North American Skull Base Society	2015-Present
Member, Society of Lateral Access Surgery	2018-Present

Committees

Member, TGH Best Practice Innovation Committee	2018-Present
Member, AANS Intraoperative Monitoring Committee	2019-Present
Member, TGH Spine Matrix Committee	2020-Present

Languages

English, Spanish, Farsi