

## Rohan Chitale

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### Current Appointment

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VANDERBILT UNIVERSITY MEDICAL CENTER, Nashville, TN, May 2015-Present

- Assistant Professor, Department of Neurological Surgery, Department of Radiology and Radiological Sciences
- Assistant Residency Program Director, Department of Neurological Surgery, 2016-2018
- Associate Residency Program Director, Department of Neurological Surgery, 2018-Present

### Previous Appointments

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COOPER UNIVERSITY HOSPITAL, Camden, NJ, Aug 2014-May 2015

- Department of Neurosurgery, Cooper Neurological Institute
- Co-director Neurointerventional Surgery
- Co-director Stroke Program

### Post-Graduate Medical Education

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THOMAS JEFFERSON UNIVERSITY HOSPITAL, Philadelphia, PA

- Board Certified Diplomate of American Board of Neurological Surgeons, November 2018
- Fellow, Endovascular Neurological Surgery, July 2013- June 2014
- Resident, Neurological Surgery, July 2008- June 2014
- Intern, General Surgery, July 2007- June 2008

### Education

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JEFFERSON MEDICAL COLLEGE, Philadelphia, PA, Aug 2003- June 2007

- Doctor of Medicine

UNIVERSITY OF PENNSYLVANIA, Philadelphia, PA, Sept 1999- May 2003

- College of Arts and Sciences
- Bachelor of Arts in Economics, Minor in Chemistry
- Magna Cum Laude, Benjamin Franklin Scholar, Golden Key International Honours Society

LONDON SCHOOL OF ECONOMICS, London, UK, Oct 2001- June 2002

- Department of Economics
- Junior Year Study Abroad – General Course

### Specialty Boards and Certification

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#### Licensure

Tennessee 2015-Present

#### Board Certification

American Board of Neurological Surgery 2018

### Committee Service

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#### Organizational Activities (Intramural)

|              |  |
|--------------|--|
| 2016-present | Medical Economic Outcomes Committee, Vanderbilt University   |
| 2016-present | Program Evaluation Committee, Vanderbilt Neurological Surgery Residency Program                                      |
| 2016-present | Clinical Competency Committee, Vanderbilt Neurological Surgery Residency Program<br><i>Chairperson, 2019-present</i> |
| 2016-present | Core Curriculum Committee, Vanderbilt Neurological Surgery Residency Program   |
| 2018-present | Early Career Physician Council   |

### Organizational Activities (Extramural)

|              |  |
|--------------|--|
| 2011-2015    | Faculty, Simulator Course, Congress of Neurological Surgeons (CNS)   |
| 2016-present | Associate Editor: Operative Neurosurgery, Endovascular Section   |
| 2016-present | Ad Hoc Reviewer: Journal of Neurointerventional Surgery  |
| 2018-present | Joint Guidelines Review Committee, American Association of Neurological Surgeons/Congress of Neurological Surgeons (AANS/CNS)    |
| 2018-present | Annual Meeting Program Committee, Society of Neurointerventional Surgery (SNIS)  |
| 2018         | Annual Meeting Abstract Reviewer, Society of Neurointerventional Surgery (SNIS)  |
| 2019         | Annual Meeting Abstract Reviewer, Congress of Neurological Surgeons Cerebrovascular Section Meeting (CNS)                        |
| 2019-present | Executive Committee, Southern Neurosurgical Society (SNS)  |
| 2018-present | Data Safety and Monitoring Board, INVEST Trial<br>Sponsor: J Mocco<br>Collaborators: Mount Sinai Hospital, University of Buffalo |
| 2018-present | Unaffiliated Neurotrauma Consultant, National Football League (NFL)  |

### **Editorial Boards**

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Associate Editor:  
Operative Neurosurgery, Endovascular Section, 2016-present

Ad Hoc Reviewer:  
Journal of Neurointerventional Surgery, 2016-present

### **Awards**

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#### Awards, Honors

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| 1999      | Valedictorian, Penncrest High School, Media, PA                        |
| 1999      | National Merit Finalist  |
| 1999-2003 | Benjamin Franklin Scholar, University of Pennsylvania                  |
| 2001      | Golden Key International Honor Society                                 |
| 2003      | Magna Cum Laude, University of Pennsylvania                            |
| 2014      | Alpha Omega Alpha Honor Medical Society                                |
| 2018-2019 | Congress of Neurological Surgeons Leadership Fellow                    |
| 2018      | Excellence in Patient Experience, Vanderbilt University Medical Center |

### **Professional Organizations/Committee Memberships**

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- Alpha Omega Alpha Honor Medical Society
- American Association of Neurological Surgeons
- Congress of Neurological Surgeons
- Society of Neurointerventional Surgery
- Member/faculty CNS Education Committee, 2011-2015
- Neurosurgery Clerkship Clinical Skills Instructor for Medical Students, 2011-2012

### **TEACHING ACTIVITIES**

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#### Medical Student Courses

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|--------------|--|
| 2011-2012    | Clinical Skills Instructor, Neurosurgery Clerkship, Jefferson Medical College<br>3 lectures per year, hands-on practical skills sessions |
| 2017-present | Surgery Subspecialty Clerkship Director<br>Organize rotation, provide teaching in operating room and clinic                              |

- 2017-present “Vascular Neurosurgery and Handling Life and Death Situations” Neurosurgery Elective Lecture, Vanderbilt University School of Medicine  
1 lecture per year
- 2018-2019 Faculty, Careers in Medicine Specialty Speed Dating, Vanderbilt University School of Medicine  
2019 Research Immersion Class Mentor  
Student: Matthews Lan, Vanderbilt University School of Medicine  
Project: Regional Impacts of Cost-of-Living Changes on Unruptured Aneurysm Treatment Costs

#### Graduate Courses

- 2011-2015 Faculty, Simulator Course for Congress of Neurological Surgeons (CNS), *developed curriculum*
- 2016-2017 Faculty, Vascular Microanastomosis Course for Neurosurgical Residents  
Vanderbilt University Medical Center  
*Developed course in 2016*
- 2018 BME 6302 Engineering in Surgery and Intervention: Clinical Interactions  
Associated with Training Grant T32-EB021937 – Training Program for Innovative Engineering Research in Surgery and Intervention  
*Mentor for PhD student Colette Abah*

#### Continuing Medical Education

- 2008 *Cost Effectiveness of Treatment of Aneurysmal Subarachnoid Hemorrhage*  
Neurosurgical Grand Rounds, Thomas Jefferson University Hospital
- 2010 *Endovascular Treatment of Cerebral Arteriovenous Malformations*  
Neurosurgical Grand Rounds, Thomas Jefferson University Hospital
- 2010 *Unilateral Cervical Facet Fractures*  
Neurosurgical Grand Rounds, Thomas Jefferson University Hospital
- 2011 *On the Frontier of Glioma Therapy*  
Neurosurgical Grand Rounds, Thomas Jefferson University Hospital
- 2014 *The Art of Critical Care During Transport of a Neuro Patient*  
NJ Statewide Conference on EMS
- 2015 *Stroke Care, focusing on latest clinical updates, case review, and open discussion*  
Elmer Hospital, Vineland, NJ.
- 2015 *Altered Mental Status and Neurological Emergencies*  
Robertson and Cheatham County EMS Night Out, Cheatham County Library
- 2015 *Carotid Disease*  
Neurosurgical Grand Rounds, Vanderbilt University Medical Center
- 2015 *Current Symptomatic and Asymptomatic Carotid Artery Stenosis and Management*  
CME Grand Rounds, DeKalb Hospital
- 2015 *Carotid Disease*  
18th Annual Harold ‘Jobe’ Bernard Stroke and Neurosciences Symposium  
Hilton Garden Inn, Nashville/Vanderbilt
- 2016 *Endovascular Treatment of Aneurysms 101*  
Neurosurgical Grand Rounds, Vanderbilt University Medical Center
- 2016 *Acute Interventional Treatment of Stroke*  
19th Annual Harold ‘Jobe’ Bernard Stroke and Neurosciences Symposium  
Hilton Garden Inn, Nashville/Vanderbilt
- 2017 *Endovascular Treatment of AVMs*  
Neurosurgical Grand Rounds, Vanderbilt University Medical Center
- 2017 *Trends in the Treatment of ICH*  
Tennessee Neurosurgical Society Meeting, Omni Hotel, Nashville, TN
- 2018 *Broadening the Stroke Window in Light of the DAWN Trial*  
South Jersey Neurovascular and Stroke Symposium. Sicklerville, NJ

- 2018 *Broadening the Stroke Window and What it Means for Acute Care Triage*  
Emergency Medicine Grand Rounds, Vanderbilt University Medical Center
- 2018 *Stroke 101*  
Anesthesia Grand Rounds, Vanderbilt University Medical Center
- 2019 *A New Time for Stroke Care*  
Tennova Health Care-Lebanon, TN
- 2019 *Advancements in Cerebrovascular Therapies*  
Neurosurgical Grand Rounds, Vanderbilt University Medical Center

### **Clinical Instruction**

#### Undergraduates

- 2015 – present Host for Vanderbilt University students in clinic and operating room for a semester at a time through the medical careers interest group

#### Medical Students

- 2017 – present Director, Neurosurgery Clerkship

#### Neurosurgery Residents

- 2015 – present Supervising faculty teaching surgical techniques, outpatient and inpatient management of neurosurgical patients daily
- 2016 – 2018 Assistant Residency Program Director
- 2018 – present Associate Residency Program Director

#### Neuroendovascular Surgery Fellows

- 2015 – present Supervising faculty for fellows in Neuroendovascular Surgery

## **RESEARCH PROGRAM**

### **LABORATORY RESEARCH ACTIVITIES**

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- 2018 – present Co-investigator with Nabil Simaan, PhD  
Robotics in Cerebrovascular Disease  
ARMA (Advanced Robotics and Mechanism Applications) Lab  
R01 Grant Co-Principal Investigator (Submitted) – *Intelligent Assistive Technologies for Tele-assisted Mechanical Thrombectomy*

### **Clinical Trials/Registries**

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#### **Ongoing Research Support**

##### Industry-funded research

COAST: Coiling of Aneurysms Smaller Than 5mm with Hypersoft. Trial of a new generation coil.  
The goal of this study was to establish efficacy of treatment of small intracranial aneurysms with Hypersoft coils.(Microvention)

Role: Site Principal Investigator initiated 10/2014

EXCELLENT: Embotrap eXtraction & Clot Evaluation & Lesion Evaluation for NeuroThrombectomy

The goal of this study is to assess the efficacy of the stent-retriever in a real-world setting, and to explore correlations between comorbidities, clot characteristics, revascularization rates, and clinical outcomes.

Role: Site Principal Investigator initiated 7/2019

#### **Completed Research Support**

##### Industry-funded research

Apollo Onyx Delivery Microcatheter Post Market Safety Study

03/04/2015-04/29/2019

The goal of this study was to evaluate the safety of the a new detachable-tip microcatheter when used for endovascular embolization of brain arteriovenous malformations. (Medtronic)

Role: Site Principal Investigator

#### STRATIS

09/15/2014-04/18/2017

Systematic Evaluation of Patients Treated with Stroke Devices for Acute Ischemic Stroke Registry

The goal of this registry was to assess clinical outcomes, and different factors that may affect these clinical outcomes for acute stroke patients who undergo mechanical thrombectomy. (Medtronic)

Role: Site Principal Investigator

#### **Other Trials and Registries**

##### Completed:

MISTIE III: Minimally Invasive Surgery Plus Rt-PA for ICH Evacuation Phase III

Sponsor: Daniel Hanley

Collaborators: National Institute of Neurological Disorders and Stroke (NINDS), Genentech, Inc., Emissary International LLC

Role: Site Co-Investigator

DEFUSE 3: Endovascular Therapy Following Imaging Evaluation for Ischemic Stroke 3

Sponsor: Gregory W Albers

Collaborators: National Institute of Neurological Disorders and Stroke (NINDS), University of Cincinnati, Medical University of South Carolina, NINDS Stroke Trials Network (StrokeNet)

Role: Site Co-Investigator

ATLAS: Neuroform Atlas Stent for Intracranial Aneurysm Treatment

Sponsor: Stryker Neurovascular

Role: Site Co-Investigator

BARREL: Study of the Reverse Medical Barrel Vascular Reconstruction Device (VRD) for Adjunctive Treatment to Embolic Coils for Wide-Neck, Intracranial, Bifurcating/Branching Aneurysms

Sponsor: Medtronic Neurovascular Clinical Affairs

Role: Site Co-Investigator

#### ENDOPHYS

Sponsor: Vanderbilt University Medical Center

Role: Co-Investigator

TRAP: Trevo Aspiration Proximal Flow Control Registry

Sponsor: University of Massachusetts, Worcester

Collaborator: Stryker Neurovascular

Role: Site Co-Investigator

BEST: Blood pressure after Endovascular Stroke Therapy

Sponsor: Pooja Khatri, Eva Mistry

Collaborators: StrokeNet

Role: Site Principal Investigator

##### Ongoing:

Acetaminophen in aSAH to Inhibit Lipid Peroxidation and Cerebral Vasospasm

Sponsor: Vanderbilt University

Collaborator: National Institutes of Health (NIH)

Role: Site Co-Investigator

ENRICH: Early Minimally-invasive Removal of Intracerebral Hemorrhage

Sponsor: Nico Corporation

Collaborator: Emory University

**Peer-Reviewed Publications**

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1. Arroyo EJ, Sirkowski EE, **Chitale R**, Scherer SS. Acute demyelination disrupts the molecular organization of peripheral nervous system nodes. *J Comp Neurol*. 2004 Nov 22;479(4):424-34. doi: 10.1002/cne.20321. PubMed PMID: 15514980.
2. Campbell PG, Malone J, Yadla S, **Chitale R**, Nasser R, Maltenfort MG, Vaccaro A, Ratliff JK. Comparison of ICD-9-based, retrospective, and prospective assessments of perioperative complications: assessment of accuracy in reporting. *J Neurosurg Spine*. 2011 Jan;14(1):16-22. doi: 10.3171/2010.9.SPINE10151. Epub 2010 Dec 10. PubMed PMID: 21142455.
3. Yadla S, Campbell PG, **Chitale R**, Maltenfort MG, Jabbour P, Sharan AD. Effect of early surgery, material, and method of flap preservation on cranioplasty infections: a systematic review. *Neurosurgery*. 2011 Apr;68(4):1124-9; discussion 1130. doi: 10.1227/NEU.0b013e31820a5470. Review. PubMed PMID: 21242830.
4. Chalouhi N, **Chitale R**, Jabbour P, Tjoumakaris S, Dumont AS, Rosenwasser R, Gonzalez LF. The case for family screening for intracranial aneurysms. *Neurosurg Focus*. 2011 Dec;31(6):E8. doi: 10.3171/2011.9.FOCUS11210. Review. PubMed PMID: 22133176.
5. Jabbour P, Chalouhi N, Tjoumakaris S, Gonzalez LF, Dumont AS, **Chitale R**, Rosenwasser R, Bianciotto CG, Shields C. Pearls and pitfalls of intraarterial chemotherapy for retinoblastoma. *J Neurosurg Pediatr*. 2012 Sep;10(3):175-81. doi: 10.3171/2012.5.PEDS1277. Epub 2012 Jul 13. Review. PubMed PMID: 22793160.
6. **Chitale R**, Gonzalez LF, Randazzo C, Dumont AS, Tjoumakaris S, Rosenwasser R, Chalouhi N, Gordon D, Jabbour P. Single center experience with pipeline stent: feasibility, technique, and complications. *Neurosurgery*. 2012 Sep;71(3):679-91; discussion 691. doi: 10.1227/NEU.0b013e318260fe86. PubMed PMID: 22653389.
7. Chalouhi N, Tjoumakaris S, Dumont AS, Gonzalez LF, Randazzo C, Gordon D, **Chitale R**, Rosenwasser R, Jabbour P. Superior hypophyseal artery aneurysms have the lowest recurrence rate with endovascular therapy. *AJNR Am J Neuroradiol*. 2012 Sep;33(8):1502-6. doi: 10.3174/ajnr.A3004. Epub 2012 Mar 8. PubMed PMID: 22403776.
8. **Chitale R**, Tjoumakaris S, Gonzalez F, Dumont AS, Rosenwasser RH, Jabbour P. Infratentorial and supratentorial strokes after a cranioplasty. *Neurologist*. 2013 Jan;19(1):17-21. doi: 10.1097/NRL.0b013e31827c6bb6. PubMed PMID: 23269102.
9. Chalouhi N, Jabbour P, Tjoumakaris S, Dumont AS, **Chitale R**, Rosenwasser RH, Gonzalez LF. Single-center experience with balloon-assisted coil embolization of intracranial aneurysms: safety, efficacy and indications. *Clin Neurol Neurosurg*. 2013 May;115(5):607-13. doi: 10.1016/j.clineuro.2012.07.028. Epub 2012 Aug 18. PubMed PMID: 22906818.
10. **Chitale R**, Chalouhi N, Theofanis T, Starke RM, Amenta P, Jabbour P, Tjoumakaris S, Dumont AS, Rosenwasser RH, Gonzalez LF. Treatment of ruptured intracranial aneurysms: comparison of stenting and balloon remodeling. *Neurosurgery*. 2013 Jun;72(6):953-9. doi: 10.1227/NEU.0b013e31828ecf69. PubMed PMID: 23467252.
11. Jabbour P, Chalouhi N, Tjoumakaris S, Gonzalez LF, Dumont AS, Randazzo C, Starke RM, Hasan D, **Chitale R**, Singhal S, Moukarzel LA, Rosenwasser R. The Pipeline Embolization Device: learning curve and predictors of complications and aneurysm obliteration. *Neurosurgery*. 2013 Jul;73(1):113-20; discussion 120. doi: 10.1227/01.neu.0000429844.06955.39. PubMed PMID: 23615106.
12. Ghobrial GM, Anderson PA, **Chitale R**, Campbell PG, Lobel DA, Harrop J. Simulated spinal cerebrospinal fluid leak repair: an educational model with didactic and technical components. *Neurosurgery*. 2013 Oct;73 Suppl 1:111-5. doi: 10.1227/NEU.000000000000100. PubMed PMID: 24051873.
13. **Chitale R**, Ghobrial GM, Lobel D, Harrop J. Simulated lumbar minimally invasive surgery educational model with didactic and technical components. *Neurosurgery*. 2013 Oct;73 Suppl 1:107-10. doi: 10.1227/NEU.000000000000091. PubMed PMID: 24051872.
14. Chalouhi N, Ghobrial G, Tjoumakaris S, Dumont AS, Gonzalez LF, Witte S, Davanzo J, Starke RM, Randazzo C, Flanders AE, Hasan D, **Chitale R**, Rosenwasser R, Jabbour P. CT perfusion-guided versus time-guided mechanical recanalization in acute ischemic stroke patients. *Clin Neurol Neurosurg*. 2013 Dec;115(12):2471-5. doi: 10.1016/j.clineuro.2013.09.036. Epub 2013 Oct 12. PubMed PMID: 24176650.
15. Chalouhi N, **Chitale R**, Starke RM, Jabbour P, Tjoumakaris S, Dumont AS, Rosenwasser RH, Gonzalez LF. Treatment of recurrent intracranial aneurysms with the Pipeline Embolization Device. *J Neurointerv Surg*. 2014 Jan;6(1):19-23. doi: 10.1136/neurintsurg-2012-010612. Epub 2013 Jan 23. PubMed PMID: 23345630.

16. **Chitale R**, Zanaty M, Chalouhi N, Jabbour P, Rosenwasser RH, Tjoumakaris S. Immediate aneurysm rupture after pipeline embolization: a new complication of flow diversion. *Clin Neurol Neurosurg*. 2014 Sep;124:188-91. doi: 10.1016/j.clineuro.2014.07.002. Epub 2014 Jul 14. PubMed PMID: 25087041.
17. Harrop JS, Ghobrial GM, **Chitale R**, Krespan K, Odorizzi L, Fried T, Maltenfort M, Cohen M, Vaccaro A. Evaluating initial spine trauma response: injury time to trauma center in PA, USA. *J Clin Neurosci*. 2014 Oct;21(10):1725-9. doi: 10.1016/j.jocn.2014.03.011. Epub 2014 Jun 3. PubMed PMID: 24932590.
18. Zanaty M, Chalouhi N, Starke RM, **Chitale R**, Hann S, Bovenzi CD, Saigh MP, Schwartz EW, Kunkel ES, Efthimiadis-Budike AS, Jabbour P, Dalyai R, Rosenwasser RH, Tjoumakaris SI. Predictors of infections following cranioplasty: a retrospective review of a large single center study. *ScientificWorldJournal*. 2014;2014:356042. doi: 10.1155/2014/356042. Epub 2014 Oct 22. Review. PubMed PMID: 25401136; PubMed Central PMCID: PMC4221876.
19. **Chitale R**, Campbell PG, Yadla S, Whitmore RG, Maltenfort MG, Ratliff JK. International classification of disease clinical modification 9 modeling of a patient comorbidity score predicts incidence of perioperative complications in a nationwide inpatient sample assessment of complications in spine surgery. *J Spinal Disord Tech*. 2015 May;28(4):126-33. doi: 10.1097/BSD.0b013e318270dad7. PubMed PMID: 22960417.
20. Lagman C, Varshneya K, Sarmiento JM, Turtz AR, **Chitale RV**. Proposed Diagnostic Criteria, Classification Schema, and Review of Literature of Notochord-Derived Ecchordosis Physaliphora. *Cureus*. 2016 Mar 30;8(3):e547. doi: 10.7759/cureus.547. Review. PubMed PMID: 27158576; PubMed Central PMCID: PMC4854633.
21. Mistry AM, Mistry EA, Ganesh Kumar N, Froehler MT, Fusco MR, **Chitale RV**. Corticosteroids in the Management of Hyponatremia, Hypovolemia, and Vasospasm in Subarachnoid Hemorrhage: A Meta-Analysis. *Cerebrovasc Dis*. 2016;42(3-4):263-71. doi: 10.1159/000446251. Epub 2016 May 14. Review. PubMed PMID: 27173669.
22. Mistry EA, Mistry AM, Nakawah MO, Khattar NK, Fortuny EM, Cruz AS, Froehler MT, **Chitale RV**, James RF, Fusco MR, Volpi JJ. Systolic Blood Pressure Within 24 Hours After Thrombectomy for Acute Ischemic Stroke Correlates With Outcome. *J Am Heart Assoc*. 2017 May 18;6(5). doi: 10.1161/JAHA.117.006167. PubMed PMID: 28522673; PubMed Central PMCID: PMC5524120.
23. Mistry EA, Mistry AM, Nakawah MO, **Chitale RV**, James RF, Volpi JJ, Fusco MR. Mechanical Thrombectomy Outcomes With and Without Intravenous Thrombolysis in Stroke Patients: A Meta-Analysis. *Stroke*. 2017 Sep;48(9):2450-2456. doi: 10.1161/STROKEAHA.117.017320. Epub 2017 Jul 26. PubMed PMID: 28747462.
24. Mueller-Kronast NH, Zaidat OO, Froehler MT, Jahan R, Aziz-Sultan MA, Klucznik RP, Saver JL, Hellinger FR Jr, Yavagal DR, Yao TL, Liebeskind DS, Jadhav AP, Gupta R, Hassan AE, Martin CO, Bozorgchami H, Kaushal R, Nogueira RG, Gandhi RH, Peterson EC, Dashti SR, Given CA 2nd, Mehta BP, Deshmukh V, Starkman S, Linfante I, McPherson SH, Kvamme P, Grobelny TJ, Hussain MS, Thacker I, Vora N, Chen PR, Monteith SJ, Ecker RD, Schirmer CM, Sauvageau E, Abou-Chebl A, Derdeyn CP, Maidan L, Badruddin A, Siddiqui AH, Dumont TM, Alhajeri A, Taqi MA, Asi K, Carpenter J, Boulos A, Jindal G, Puri AS, **Chitale R**, Deshaies EM, Robinson DH, Kallmes DF, Baxter BW, Jumaa MA, Sunenshine P, Majjhoo A, English JD, Suzuki S, Fessler RD, Delgado Almandoz JE, Martin JC, Haussen DC. Systematic Evaluation of Patients Treated With Neurothrombectomy Devices for Acute Ischemic Stroke: Primary Results of the STRATIS Registry. *Stroke*. 2017 Oct;48(10):2760-2768. doi: 10.1161/STROKEAHA.117.016456. Epub 2017 Aug 22. PubMed PMID: 28830971.
25. Lagman C, Chung LK, **Chitale RV**, Yang I. Dural Arteriovenous Fistula and Foix-Alajouanine Syndrome: Assessment of Functional Scores with Review of Pathogenesis. *World Neurosurg*. 2017 Oct;106:206-210. doi: 10.1016/j.wneu.2017.06.141. Epub 2017 Jun 30. Review. PubMed PMID: 28673891.
26. Froehler MT, Saver JL, Zaidat OO, Jahan R, Aziz-Sultan MA, Klucznik RP, Haussen DC, Hellinger FR Jr, Yavagal DR, Yao TL, Liebeskind DS, Jadhav AP, Gupta R, Hassan AE, Martin CO, Bozorgchami H, Kaushal R, Nogueira RG, Gandhi RH, Peterson EC, Dashti SR, Given CA 2nd, Mehta BP, Deshmukh V, Starkman S, Linfante I, McPherson SH, Kvamme P, Grobelny TJ, Hussain MS, Thacker I, Vora N, Chen PR, Monteith SJ, Ecker RD, Schirmer CM, Sauvageau E, Abou-Chebl A, Derdeyn CP, Maidan L, Badruddin A, Siddiqui AH, Dumont TM, Alhajeri A, Taqi MA, Asi K, Carpenter J, Boulos A, Jindal G, Puri AS, **Chitale R**, Deshaies EM, Robinson DH, Kallmes DF, Baxter BW, Jumaa MA, Sunenshine P, Majjhoo A, English JD, Suzuki S, Fessler RD, Delgado Almandoz JE, Martin JC, Mueller-Kronast NH. Interhospital Transfer Before Thrombectomy Is Associated With Delayed Treatment and Worse Outcome in the STRATIS Registry (Systematic Evaluation of Patients Treated With Neurothrombectomy Devices for Acute Ischemic Stroke). *Circulation*. 2017 Dec 12;136(24):2311-2321. doi: 10.1161/CIRCULATIONAHA.117.028920. Epub 2017 Sep 24. PubMed PMID: 28943516; PubMed Central PMCID: PMC5732640.

27. Froehler MT, **Chitale R**, Magarik JA, Fusco MR. Comparison of a pressure-sensing sheath and radial arterial line for intraoperative blood pressure monitoring in neurointerventional procedures. *J Neurointerv Surg*. 2018 Aug;10(8):784-787. doi: 10.1136/neurintsurg-2018-013769. Epub 2018 Feb 27. PubMed PMID: 29487193; PubMed Central PMCID: PMC6204936.
28. Texakalidis P, Giannopoulos S, Jonnalagadda AK, **Chitale RV**, Jabbour P, Armstrong EJ, Schwartz GG, Kokkinidis DG. Preoperative Use of Statins in Carotid Artery Stenting: A Systematic Review and Meta-analysis. *J Endovasc Ther*. 2018 Oct;25(5):624-631. doi: 10.1177/1526602818794030. Epub 2018 Aug 13. PubMed PMID: 30101624.
29. Zaidat OO, Mueller-Kronast NH, Hassan AE, Haussen DC, Jadhav AP, Froehler MT, Jahan R, Ali Aziz-Sultan M, Klucznik RP, Saver JL, Hellinger FR Jr, Yavagal DR, Yao TL, Gupta R, Martin CO, Bozorgchami H, Kaushal R, Nogueira RG, Gandhi RH, Peterson EC, Dashti S, Given CA 2nd, Mehta BP, Deshmukh V, Starkman S, Linfante I, McPherson SH, Kvamme P, Grobelny TJ, Hussain MS, Thacker I, Vora N, Chen PR, Monteith SJ, Ecker RD, Schirmer CM, Sauvageau E, Chebl AB, Derdeyn CP, Maidan L, Badruddin A, Siddiqui AH, Dumont TM, Alhajeri A, Taqi MA, Asi K, Carpenter J, Boulos A, Jindal G, Puri AS, **Chitale R**, Deshaies EM, Robinson D, Kallmes DF, Baxter BW, Jumaa M, Sunenshine P, Majjhoo A, English JD, Suzuki S, Fessler RD, Delgado-Almandoz J, Martin JC, Liebeskind DS. Impact of Balloon Guide Catheter Use on Clinical and Angiographic Outcomes in the STRATIS Stroke Thrombectomy Registry. *Stroke*. 2019 Mar;50(3):697-704. doi: 10.1161/STROKEAHA.118.021126. PubMed PMID: 30776994.
30. Bow H, He L, Raees MA, Pruthi S, **Chitale R**. Development and Implementation of an Inexpensive, Easily Producing, Time Efficient External Ventricular Drain Simulator Using 3-Dimensional Printing and Image Registration. *Oper Neurosurg (Hagerstown)*. 2019 Apr 1;16(4):496-502. doi: 10.1093/ons/opy142. PubMed PMID: 29873765.
31. Waddle SL, Juttukonda MR, Lants SK, Davis LT, **Chitale R**, Fusco MR, Jordan LC, Donahue MJ. Classifying intracranial stenosis disease severity from functional MRI data using machine learning. *J Cereb Blood Flow Metab*. 2019 May 8;:271678X19848098. doi: 10.1177/0271678X19848098. [Epub ahead of print] PubMed PMID: 31068081.
32. Dallas J, Mummareddy N, Yengo-Kahn AM, Dambrino RJ 4th, Lopez AM, Chambless LB, Berkman R, **Chitale RV**, Bonfield CM, Offodile RS, Durham S, Wellons JC 3rd, Thompson RC, Zuckerman SL. Neurosurgery Elective for Preclinical Medical Students with and without a Home Neurosurgery Program. *World Neurosurg*. 2019 Jul 19;. doi: 10.1016/j.wneu.2019.07.112. [Epub ahead of print] PubMed PMID: 31330335.
33. Montalvo M, Mistry E, Chang AD, Yakhkind A, Dakay K, Azher I, Kaushal A, Mistry A, **Chitale R**, Cutting S, Burton T, Mac Grory B, Reznik M, Mahta A, Thompson BB, Ishida K, Frontera J, Riina HA, Gordon D, Parella D, Scher E, Farkas J, McTaggart R, Khatri P, Furie KL, Jayaraman M, Yaghi S. Predicting symptomatic intracranial haemorrhage after mechanical thrombectomy: the TAG score. *J Neurol Neurosurg Psychiatry*. 2019 Aug 19;. doi: 10.1136/jnnp-2019-321184. [Epub ahead of print] PubMed PMID: 31427365.
34. Johnson SE, McKnight CD, Lants SK, Juttukonda MR, Fusco M, **Chitale R**, Donahue PC, Claassen DO, Donahue MJ. Choroid plexus perfusion and intracranial cerebrospinal fluid changes after angiogenesis. *J Cereb Blood Flow Metab*. 2019 Sep 9;271678X19872563. doi: 10.1177/0271678X19872563. [Epub ahead of print] PMID: 31500523

## Book Chapters

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1. Prasad S, Amenta PS, **Chitale R**, Sharan A. Cervical Facet Dislocations. Prototype for interactive multimedia-CNS University. The Congress of Neurological Surgeons Website 2011.
2. **Chitale R**, Jabbour P, Gonzalez LF, Rosenwasser RH, Tjoumakaris S. Endovascular Treatment of Cerebral Arteriovenous Malformations, *Operative Neurosurgical Techniques*, 6<sup>th</sup> edition, Schmidek and Sweet. 2012.
3. Amenta PS, **Chitale R**, Prasad S. Posterior Thoracic Discectomy Techniques, *Surgical Atlas of Spinal Operations*, Vaccaro and Eck 2013.
4. Chalouhi N, **Chitale R**, Gonzalez F. Carotid Disease. *Neurovascular Surgery*, 2<sup>nd</sup> ed. Spetzler, Kalani, Nakaji (eds) Thieme. June 10, 2015.
5. **Chitale R**, Jabbour P, Rosenwasser R, Tjoumakaris S. Developmental Venous Anomalies. *Neurosurgery Knowledge Update*. Harbaugh, et al (eds) Thieme. June 12, 2015.
6. **Chitale R**, Kung D, Tjoumakaris S, Jabbour P, Rosenwasser R. Endovascular Management of Intracranial Aneurysms. *Neurocritical Care Management of the Neurosurgical Patient*, Kumar, Kofke, Levine & Schuster (eds) Elsevier. 2017



## Editorials, Letters, Commentaries

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1. Jallo J, **Chitale R**. An analysis of phenytoin vs. levetiracetam for early seizure pharmacoprophylaxis following TBI. *J Trauma Acute Care Surg*. 2012 Apr;72(4):1116-7. doi: 10.1097/TA.0b013e318240d408. PubMed PMID: 22491638.

## Peer-Reviewed Conference Papers

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1. Abah C, Del Giudice G, Shihora N, **Chitale R**, Simaan N. Towards Semi-Automated Mechanical Thrombectomy: Path Planning Considerations for a Double Articulated Microcatheter. Hamlyn Symposium on Medical Robotics, London U.K., June 22-26, 2019.

## Peer-Reviewed Poster Presentations

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1. Ooi YC, Kenning E, **Chitale R**, Campbell P, Jabbour P, Gonzalez LF, Dumont AS, Rosenwasser RH, Tjoumakaris S. Long-term Angiographic Follow-up of Cerebral Aneurysms Treated by Endovascular Coiling Compared to Microsurgical Clipping, 14<sup>th</sup> European Congress of Neurosurgery. Rome, Italy. October 2011.
2. Ooi YC, **Chitale R**, Kenning E, Campbell P, Jabbour P, Gonzalez LF, Dumont AS, Rosenwasser RH, Tjoumakaris S. Angiographic Long-term Efficacy of Aneurysm Clipping, 14<sup>th</sup> European Congress of Neurosurgery. Rome, Italy. October 2011.
3. **Chitale R**, Campbell P, Yadla, S, Whitmore RG, Maltenfort MG, Ratliff, JK. International Classification of Disease Clinical Modification 9 Modeling of the Patient Comorbidity Score Predicts Incidence of Perioperative Complications in a Nationwide Inpatient Sample. AANS/CNS Section on Disorders of Spine and Peripheral Nerves, Miami, FL. April 2012.
4. Chalouhi N, Jabbour P, Tjoumakaris S, Dumont A, Starke R, **Chitale R**, Amenta PS, Rosenwasser RH, Gonzalez, LF. Treatment of Complex and Wide-Necked Intracranial Aneurysms in the Setting of Acute Subarachnoid Hemorrhage: Comparison of Stent-Assisted Coiling and Balloon Remodeling. Congress of Neurological Surgeons Annual Meeting, 2012.
5. **Chitale R**, Ghobrial G, Harrop J. MIS Lumbar Simulator Model for Residency Education. 100<sup>th</sup> Pennsylvania Neurosurgical Society Meeting, Hershey, PA. July 2013.
6. Chalouhi N, Tjoumakaris S, Gonzalez LF, Dumont AS, Randazzo C, Starke R, Hasan D, **Chitale R**, Singhal S, Moukarzel L, Rosenwasser RH, Jabbour P. The Pipeline Embolization Device: Learning Curve and Predictors of Complications and Aneurysm Obliteration. Congress of Neurological Surgeons Annual Meeting, 2013.
7. **Chitale R**, Vaccaro A, Harrop J. Evaluating Initial Spine Trauma Response: Injury Time to Trauma Center, Congress of Neurological Surgery Annual Meeting, San Francisco, CA. October 2013.
8. Harrop J, Sharan AD, Hoh DJ, **Chitale R**, Ghobrial G, Rezai A. Neurosurgical training with a novel Cervical Spine Simulator: Posterior foraminotomy and laminectomy. Congress of Neurological Surgeons Annual Meeting, San Francisco, CA. October 2013.
9. Ghobrial G, Anderson PA, **Chitale R**, Campbell P, Lobel D, Harrop JS. Simulated Spinal Cerebrospinal Fluid Leak Repair: An Educational Model with Didactic and Technical Components. Congress of Neurological Surgeons Annual Meeting, San Francisco, CA. October 2013.
10. **Chitale R**, Campbell P, Ghobrial G, Harrop J. Neurosurgical training with a novel Minimally Invasive Spine Simulator: percutaneous lumbar pedicle screw placement. Congress of Neurological Surgeons Annual Meeting, San Francisco, CA. October 2013.
11. Magarik J, **Chitale R**, Fusco M, Froehler M. A Novel Handheld Suction Device for Direct Aspiration Thrombectomy: Clinical Experience in Four Cases of Large Vessel Ischemic Stroke. AANS/CNS Cerebrovascular Section Annual Meeting, 2017.
12. Dallas J, Liles C, Gannon S, Wolfson D, Shannon C, **Chitale R**, Fusco M. A National Inpatient Sample Evaluation of Mortality and Morbidity Following Aneurysmal Subarachnoid Hemorrhage. Southern Neurosurgical Society Annual Meeting, February 2019.
13. C Liles, J Dallas, C Shannon, M Fusco, **Chitale R**. Predictive Modelling for Aneurysmal Subarachnoid Hemorrhage Length of Stay. CNS Annual Meeting, October 2018.
14. J Dallas, C Liles, C Shannon, **Chitale R**, M Fusco. Factors Associated with Increased In-Hospital Mortality Following Aneurysmal Subarachnoid Hemorrhage. CNS Annual Meeting, October 2018.

15. Mistry E, Sucharew H, Mistry AM, Mehta T, Arora N, De Los Rios La Rosa F, Starosciak A, Siegler J, Barnhill N, Patel K, Assad S, Tarboosh A, Dakay K, Cruz A, Wagner J, Fortuny E, Bennett A, James R, Jagadeesan B, Streib C, O'Phelan K, Kasner S, Weber S, **Chitale R**, Volpi J, Mayer S, Yaghi S, Jayaraman M, Khatri P. Blood Pressure After Endovascular Stroke Therapy (BEST): Final Results of a Prospective Multicenter Cohort Validation Study. International Stroke Conference, February 2019.
16. Mistry E, Sucharew H, Mehta T, Arora N, Starosciak A, De Los Rios La Rosa F., Siegler J, Barnhill N, Mistry A, Patel K, Assad S, Tarboosh A, Dakay K, Wagner J, Bennett A, Cruz A, Fortuny E, James R, Jagadeesan B, Streib C, Weber S, **Chitale R**, Volpi J, Mayer S, Yaghi S, Jayaraman M, Khatri P, Woo D. Right Hemispheric Infarcts Have Higher CT Perfusion Penumbra Volume for Given NIH Stroke Scale: Results From BEST Prospective Cohort Study. International Stroke Conference, February 2019.
17. Mistry E, Dakay K, Peterson N, Jayaraman M, McTaggart R, Furie K, Mehta T, Arora N, Starosciak A, De Los Rios Santos F, Siegler J, Barnhill N, Mistry A, Patel Kishan, Assad Salman, Tarboosh A, Wagner J, Bennett A, Cruz A, Fortuny E, James R, Jagadeesan B, Streib C, Weber S, Kasner S, **Chitale R**, Volpi J, Mayer S, Khatri P, Yaghi S. Pre-Endovascular Therapy Change in BP is Associated With Outcome: A post-Hoc Analysis of the Blood Pressure After Endovascular Treatment (BEST) Prospective Cohort Study. International Stroke Conference, February 2019.
18. Siegler J, Messé SR, Sucharew H, Mehta T, Arora N, Starosciak A, De Los Rios La Rosa F, Barnhill N, Mistry AM, Patel K, Assad S, Tarboosh A, Dakay K, Wagner J, Bennett A, Jagadeesan B, Streib S, Weber S, **Chitale R**, Volpi J, Mayer S, Yaghi S, Jayaraman M, Khatri P, Mistry E. Thrombectomy is Safe for Dawn- and Defuse-3-Ineligible Patients Who Present Within the Extended Window: A Subgroup Analysis From the BEST Prospective Cohort Study. International Stroke Conference, February 2019.
19. Siegler J, Messé S, Sucharew H, Mehta T, Arora N, Starosciak A, De Los Rios La Rosa F, Barnhill N, Mistry A, Patel K, Assad S, Tarboosh A, Dakay K, Wagner J, Bennett A, Jagadeesan B, Streib C, Weber S, **Chitale R**, Volpi J, Mayer S, Yaghi S, Jayaraman M, Khatri P, Mistry EA. Underestimation of Ischemic Core on Perfusion CT in Patients With Acute Large Vessel Occlusion: Results From the BEST Prospective Cohort Study. International Stroke Conference, February 2019.
20. Froehler M, Fusco MR, **Chitale R**, Liebeskind DS, Zaidat O, Jahan R, Aziz-Sultan MA, Klucznik R, Saver J, Hellinger FR, Yavagal D, Yao T, Haussen D, Mueller-Kronast NH. Air versus Ground Transport for Interhospital Transfer Prior to Endovascular Stroke Treatment. International Stroke Conference, February 2019.
21. Mistry EA, Mistry AM, Nakawah MO, **Chitale R**, James R, Volpi J, Fusco, M. Mechanical Thrombectomy Outcomes With and Without Intravenous Thrombolysis in Stroke Patients. International Stroke Conference, February 2019.
22. Mistry EA, Sucharew H, Mehta T, Arora N, Starosciak A, De Los Rios La Rosa F, Siegler J, Barnhill N, Mistry AM, Patel K, Assad S, Tarboosh A, Dakay K, Wagner J, Cruz A, Fortuny E, James R, Jagadeesan B, Streib C, Weber S, **Chitale R**, Volpi J, Mayer S, Yaghi S, Jayaraman M, Khatri P. DEFUSE-3 Eligible but DAWN Ineligible Patients Treated Within 16-24 Hours: Results From BEST Prospective Cohort Study. International Stroke Conference, February 2019.
23. C Liles, J Dallas, S Gannon, C Shannon, M Fusco, **Chitale R**. Factors Associated with Increased Length-of-Stay Following Aneurysmal Subarachnoid Hemorrhage. Southern Neurosurgical Society Annual Meeting, February 2019.
24. C Liles, M Bezzarides, C Shannon, MR Fusco, **Chitale R**. The Effect of Medicaid Expansion on Aneurysmal Subarachnoid Hemorrhage Outcomes. Southern Neurosurgical Society Annual Meeting, February 2019.
25. P Patel, S Chotai, C Liles, H Chen, S Zhao, C Shannon, M Fusco, **Chitale R**. Effects of Neurovascular Comorbidities and In-Hospital Complications on Procedural Management of Unruptured Aneurysm. AANS Annual Meeting, April 2019.
26. A Hale, J Magarik, M Fusco, **Chitale R**, E Gamazon. Elucidation of a Genetic Signature Associated with Spontaneous Subarachnoid Hemorrhage in Patients with Intracerebral Aneurysms. AANS Annual Meeting, April 2019.
27. J Dallas, C Liles, S Gannon, C Shannon, **Chitale R**, M Fusco. Predictors of Increased Morbidity Following Aneurysmal Subarachnoid Hemorrhage Using National Inpatient Sample SAH Outcome Measure. AANS Annual Meeting, April 2019.
28. J Dallas, C Liles, S Gannon, C Shannon, **Chitale R**, M Fusco Factors Associated with Increased In-Hospital Mortality Following Aneurysmal Subarachnoid Hemorrhage. AANS Annual Meeting, April 2019.
29. S Chotai, P Patel, C Liles, H Chen, S Zhao, C Shannon, **Chitale R**, M Fusco. Impact of Comorbidity Adjusted Complications on Outcomes following Surgical Management of Ruptured Cerebral Aneurysm. AANS Annual Meeting, April 2019.
30. Siegler J, Messé S, Sucharew H, Kasner S, Mehta T, Arora N, Starosciak A, De Los Rios La Rosa F, Barnhill N, Mistry AM, Patel K, Assad S, Tarboosh A, Dakay K, Wagner J, Bennett A, Jagadeesan B, Streib C, Weber S, **Chitale R**, Volpi J, Mayer S, Yaghi S, Jayaraman M, Khatri P, Mistry EA. Underestimation of Ischemic Core on Perfusion CT in Patients

with Acute Large Vessel Occlusion: Results from the BEST Prospective Cohort Study. American Academy of Neurology 71st Annual Meeting, May 2019.

### Peer Reviewed Oral Presentations

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1. Ratliff JK, **Chitale R**, Malone J, Maltenfort M, Sharan A, Harrop JS. A Prospective Independent Assessment of Complications in Cervical Spine Surgery. Cervical Spine Research Society//Spine: Affiliated Society Meeting, December 2009.
2. **Chitale R**, Tjoumakaris SI, Dumont A, Gonzalez L, Rosenwasser R, Jabbour P. Largest Single Center Experience with Pipeline Stent After PUFs: Concept, Technique, and Feasibility. Pan-Philadelphia Conference, Clinical Research Presentation, Dec 2, 2011.
3. Chalouhi N, Tjoumakaris S, Gonzalez L, Dumont AS, **Chitale R**, Rosenwasser RH, Biancotto C, Shields C, Jabbour P. Intraarterial Chemotherapy For Retinoblastoma: Pearls and Pitfalls. Congress of Neurological Surgeons Annual Meeting, 2012.
4. **Chitale R**, Tjoumakaris SI, Dumont A, Gonzalez L, Rosenwasser R, Jabbour P. Single Center Experience with Pipeline Stent: Feasibility, Technique, and Complications. International Stroke Conference, New Orleans, LA. February 3, 2012.
5. **Chitale R**; Cheresnick C, Toporowski A, Chalouhi N, Tjoumakaris S, Gonzalez LF, Dumont AS, Rosenwasser RH, Jabbour P. Single Center Experience with Wingspan Stent: A Real-World Experience Outside SAMMPRIS. International Stroke Conference, New Orleans LA, February 3, 2012.
6. Harrop JS, Ghobrial G, **Chitale R**, Krespan K, Odorizzi L, Fried T, Maltenfort MG, Cohen M, Vaccaro A. Evaluating Initial Spine Trauma Response: Injury Time to Trauma Center. Congress of Neurological Surgeons Annual Meeting, 2014
7. Magarik J, **Chitale R**, Fusco M, et al. Initial implementation of dual-energy CT for post-procedure imaging after mechanical thrombectomy at a single institution. Society of Neurointerventional Surgery Meeting 2018.
8. Mistry E, Dakay K, Peterson N, Jayaraman M, McTaggart R, Furie K, Mehta T, Arora N, Starosciak A, De Los Rios La Rosa F, Siegler J, Barnhill N, Mistry A, Patel K, Assad S, Tarboosh A, Wagner J, Bennett A, Cruz A, Fortuny E, James R, Jagadeesan B, Strieb C, Weber S, Kasner S, **Chitale R**, Volpi J, Mayer S, Khatri P, Yaghi S. Pre-Endovascular Therapy Change in BP is Associated With Outcome: A post-Hoc Analysis of the Blood Pressure After Endovascular Treatment (BEST) Prospective Cohort Study. International Stroke Conference, 2019.
9. Siegler J, Messé S, Sucharew H, Mehta T, Arora N, Starosciak A, De Los Rios La Rosa F, Barnhill N, Mistry AM, Patel K, Assad S, Tarboosh A, Dakay K, Wagner J, Bennett A, Jagadeesan B, Strieb C, Weber S, **Chitale R**, Volpi J, Mayer S, Yaghi S, Jayaraman M, Khatri P, Mistry E. Thrombectomy is Safe for Dawn- and Defuse-3-Ineligible Patients Who Present Within the Extended Window: A Subgroup Analysis From the BEST Prospective Cohort Study. International Stroke Conference, 2019.
10. Salwi S, Mistry AM, Fusco MR, Froehler M, **Chitale R**, Mistry EA. Comparative Outcome Analysis of Endovascular Acute Ischemic Stroke Treatment in Patients With and Without Pre-Stroke Disability. American Academy of Neurology 71st Annual Meeting. May 2019.
11. Patel P, Salwi S, Liles C, Mistry AM, Mistry EA, Chitale R, Fusco MR, Shannon C. Increasing the Utility of Administrative Databases for Clinical Research of Stroke Patients Treated with a Mechanical Thrombectomy. Congress of Neurological Surgeons Annual Meeting, 2019

### Oral Presentations

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Chitale R. Stroke 101. Anesthesia Grand Rounds, Vanderbilt University Medical Center, June 2018.

Chitale R. Broadening the Stroke Window and What it Means for Acute Care Triage. Emergency Medicine Grand Rounds, Vanderbilt University Medical Center. May 2018.

Chitale R. Broadening the Stroke Window in Light of the DAWN Trial. South Jersey Neurovascular and Stroke Symposium. Sicklerville, NJ. April 2018.

Chitale R. Moderator, Didactic Session -- Case Complications. Cerebrovascular Complications Conference. June 2017. Jackson, WY.

Chitale R. Trends in the Treatment of ICH. Tennessee Neurosurgical Society Meeting, Omni Hotel, Nashville, August 2017.

Chitale R. Endovascular Treatment of AVMs. Neurosurgical Grand Rounds, Vanderbilt University Medical Center, July 2017.

Chitale R. Acute Interventional Treatment of Stroke. 19th Annual Harold 'Jobe' Bernard Stroke and Neurosciences Symposium, Hilton Garden Inn, Nashville/Vanderbilt, November 2016.

Chitale R. Endovascular Treatment of Aneurysms 101. Neurosurgical Grand Rounds, Vanderbilt University Medical Center, August 2016.

Chitale R. Carotid Disease. 18th Annual Harold 'Jobe' Bernard Stroke and Neurosciences Symposium, Hilton Garden Inn, Nashville/Vanderbilt, October 2015.

Chitale R. Current Symptomatic and Asymptomatic Carotid Artery Stenosis and Management. CME Grand Rounds, DeKalb Hospital, Sept 2015.

Chitale R. Altered Mental Status and Neurological Emergencies. Robertson and Cheatham County EMS Night Out, Cheatham County Library, August 2015.

Chitale R. Carotid Disease. Neurosurgical Grand Rounds, Vanderbilt University Medical Center, August 2015.

Chitale R. Shaikh H. *Stroke Care, focusing on latest clinical updates, case review, and open discussion.* Elmer Hospital, Vineland, NJ. April 2015.

Chitale R, Shaikh H. *The Art of Critical Care During Transport of a Neuro Patient.* NJ Statewide Conference on EMS, November 2014.

Chitale R. On the Frontier of Glioma Therapy. Neurosurgical Grand Rounds, Thomas Jefferson University Hospital, September 2011.

Chitale R. Unilateral Cervical Facet Fractures. Neurosurgical Grand Rounds, Thomas Jefferson University Hospital, September 2010.

Chitale R. Endovascular Treatment of Cerebral Arteriovenous Malformations. Neurosurgical Grand Rounds, Thomas Jefferson University Hospital, March 2010.

Chitale R. Cost Effectiveness of Treatment of Aneurysmal Subarachnoid Hemorrhage. Neurosurgical Grand Rounds, Thomas Jefferson University Hospital, November 2008.