Neeraj Chaudhary MD/MBBS, MRCS(UK), FRCR(UK), FAHA, FEBNI(EU)

Associate Professor of Neurointervention

Neurointerventional Radiology (NIR) & Neuro-Diagnostic Radiology (NDR) Adult & Pediatrics Departments of Radiology, Neurosurgery, Neurology, & Otorhinolaryngology

Michigan Medicine

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Ann Arbor, MI 48109-5030

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Education and Training:

<u>Undergraduate Education</u>

07/85 – 08/89 South Point High School, Kolkata, India

Graduate Education

08/89 – 07/96 Bachelor of Medicine & Bachelor of Surgery (M.B.B.S).

University of Calcutta, Kolkata, India

Postgraduate Education

09/94 - 08/95	Internship
U2/24 — U0/23	HIGHISHID

Medical College & Hospitals

Kolkata, India

09/95 – 07/96 Staff Physician in a private Urosurgery clinic with

Dr. Shivaji Basu MD FRCS in Kolkata, India

08/96 – 07/97 Gap in training – Completion of PLAB test (USMLE equivalent in

UK) with relocation to UK

08/97 – 07/98 House Officer – Residency General Surgery

General Surgical Rotation

Prince Charles Hospital NHS Trust South Wales, United Kingdom

08/98 – 01/01 Senior House Officer – **Residency General Surgery**

Basic Surgical Training Rotation

Hull & East Yorkshire Hospitals NHS Trust

Hull, United Kingdom

02/01 – 08/01 Senior House Officer – Residency Orthopedic Surgery

Heartlands & Solihull University Hospitals NHS Trust

Birmingham, United Kingdom

09/02 - 09/06Specialist Registrar (SpR) – **Residency Radiology**

King's College Hospital NHS Trust

London, United Kingdom

10/06 - 08/07**Fellowship**

> Neuro-diagnostic Radiology (NDR) Adult & Peds (12 months) National Hospital for Neurology & Neurosurgery and Great

Ormond Street Children's Hospital

London, United Kingdom

09/07 - 08/08**Fellowship**

> Neurointerventional Radiology (NIR) Adult & Peds (12 mths) National Hospital for Neurology & Neurosurgery and Great

Ormond Street Children's Hospital

London, United Kingdom

09/08 - 08/09**Fellowship**

Neurointerventional Radiology (NIR) Adult and Peds (12 mths)

University of Michigan Health System

Ann Arbor, MI

Certification and Licensure:

09/2008 - Present Michigan State Full Medical License USA – 4301092784 08/1997 – Present General Medical Council (UK License) – 4754420 (Specialist Register enrolled in the UK) 08/1996 - Present Indian Medical Council (Indian License) – MC/523/93 05/2000 - Present United Kingdom General Surgery Board Member of Royal College of Surgeons (MRCS) UK 05/2006 - Present United Kingdom Radiology Board Fellow of the Royal College of Radiologists (FRCR) UK

10/2016 - Present ABMS Diagnostic Radiology (American Board of Radiology) DABR (Diplomate of the American Board of Radiology)

Neuro-Endovascular Surgery (NES) CAST certification USA: 159

10/2018 - Present Neuroradiology (CAQ American Board of Radiology)

01/2019 - Present EBNI, Diploma in Neurointervention (UEMS, ESMINT Europe)

4/2018 - Present

Academic, Administrative and Clinical Appointments:

Clinical Appointments

09/01 – 08/02 Clinical Research Fellow, Spine Surgery

University Hospitals of Leicester NHS Trust

Leicester, United Kingdom

Academic Appointments

2021 – Present Industry partnership and Pediatric NIR committee member at

International Pediatric Stroke Organization (IPSO)

2020 – Present CBTDDC/SIGN – Children's Brain Tumor Drug Delivery

Consortium/Society for Image Guided Neurointervention -

collaborative society founding member

2020 – Present Associate Editor – BMC Neurology

2018 – Present Chair & Founder of Pediatric Neurointerventional Surgery section

Within Society of Neurointerventional Surgery (SNIS)

2018 - Present Member reviewer of Educational Exhibits at RSNA in the

Neuroradiology section

2017 – Present Scientific Editorial Board: Head of Neuro Section (NIR & NDR)

European Radiology Journal (Largest Radiology Journal in Europe

- Impact Factor 4.4)

2015 – Present Scientific Editorial Board Member: Neuro Section

European Radiology Journal (Largest Radiology Journal in Europe

- Impact Factor 4.4)

09/09 – Present Associate Professor

Neurointerventional Radiology (NIR), Department of Radiology &

Neurosurgery

University of Michigan Health System, Ann Arbor, MI

09/09 – Present Associate Professor

Neurointerventional Radiology (NIR), Department of Radiology &

Neurosurgery

Veteran's Affairs Medical Center, Ann Arbor, MI

Grants:

<u>Approved</u>

R21 – NIH NINDS Exploratory Neuroscience research

Phenomenon of ultra-early erythrolysis in Intracranial hemorrhage in Humans on MRI

Sponsor: NINDS Exploratory Neuroscience research

GRANT #: 5R21 NS104663-02 Role: UM Principal Investigator

Funding Dates: 09/30/2018 – 08/31/2020

Funding Amount: \$427,625

R21 - NIH

Brain Iron Quantification Based on MRI in Intracerebral Hemorrhage

Sponsor: Health and Human Services, Department of National Institutes of Health

Grant #: 13-PAF04409 R21NS099684

Role: UM Principal Investigator

Funding Dates: 07/01/2017 - 03/31/2019

Funding Amount: \$427,625

R01 NS108042 Pandey (PI)

09/30/2018-07/31/2023

Novel Ultrasonic Technique for the Treatment of Hemorrhagic Stroke

Major Goals: 1) Design and construct a portable histotripsy ICH system with real-time 3D feedback that can transcranially liquefy and drain ICH with high precision and efficacy. 2) Validate the targeting precision, treatment location profile, and efficacy of the transcranial histotripsy ICH system in human ICH phantom and fresh human cadaver. 3) Validate the safety and efficacy of the transcranial histotripsy ICH system in an established in vivo porcine ICH model.

Role: CoI

R01 EB028309 Xu (PI)

08/01/2019-04/30/2023

Transcranial Magnetic Resonance guided Histotripsy (tcMRgHt)

Major Goals: The goal of this project is to develop the first integrated tcMRgHT system for treatment of brain tumors.

Role: Co-Investigator

SOW #ML40787 Chaudhary (UM PI)

02/06/2019-03/31/2022

INC Research/ F. Hoffmann-La Roche AG CTSU_NSS Timeless Study (Radiology)

Major Goals: To evaluate the efficacy and safety of tenecteplase compared with placebo in patients with acute ischemic stroke (AIS) and evidence of salvageable tissue on their baseline computed tomography perfusion (CTP) scan or magnetic resonance imaging (MRI) who present in the 4.5-to24-hour time window with an internal carotid artery (ICA) or middle cerebral artery (MCA; M1 or M2) occlusion.

Role: PI

Completed projects:

DEFUSE 3

Sponsor: StrokeNet Grant#: 16-PAF02440

Role: UM Principal Investigator

Funding dates: 8/16 - 8/18

Funding Amount: per enrolled patient

Apollo Study

Sponsor: Covidien/Medtronic Post Market Study

Grant #: 15-PAF05520

Role: UM Principal Investigator

Funding Dates: 8/28/2015 – 10/30/2016

Funding Amount: \$25,000

SNIS Fellowship Grant

Sponsor: Society of Neurointerventional Surgery (SNIS)

Grant #: 12-PAF07013

Role: UM Principal Investigator

Funding Dates: 06/01/2012 – 06/30/2015

Funding Amount: \$22,750

Radiology Departmental Seed Grant

Sponsor: Department of Radiology University of Michigan

Role: UM Principal Investigator

Funding Dates: 07/01/2010 – 06/30/2012

Funding Amount: \$25,000

Submitted

RO1: Imaging biomarkers on MRI in human ICH: Correlation with Natural History

Sponsor: NIH

Honors and Awards:

2007 Best Speaker Award

Computed tomography guided percutaneous biopsy of deep face and skull base lesions. **Chaudhary N**, Connor SEJ. European Society of Head and Neck

Radiology (ESHNR), Oslo, Norway

2007 Best Poster Award

Cranial nerve denervation atrophy and Imaging features: A pictorial review. **Chaudhary N**, Woo E, Fareedi S, Connor SEJ. European Society of Head and

Neck Radiology (ESHNR), Oslo, Norway

2011 Magna Cum Laude

Endovascular Management of Symptomatic Cerebral Vasospasm with Transluminal Balloon Angioplasty. Chen J, S Kathuria, N Chaudhary, J Gemmete, AS Pandey, D Gandhi. Electronic poster. American Society of Neuroradiology, Seattle, Washington

Memberships and Professional Societies/Committee:

2000 – Present	Royal College of Surgeons UK
2004 – Present	Royal College of Radiologists UK
2005 – Present	Radiological Society of North America (RSNA)
2005 – Present	British Society of Neuroradiology (BSNR)
2009 – Present	Society of Neurointerventional Surgery (SNIS)
2009 – Present	American Society of Neuroradiology (ASNR)
2009 – Present	American College of Radiology (ACR)
2011 – Present	UK Neurointerventional Group (UKNG)
2011 – Present	World Federation of Interventional & Therapeutic Neuroradiology
	(WFITN)
2011 – Present	European Society of Minimally Invasive Neurological Therapy (ESMINT)
2015 – Present	American Stroke Association/American Heart Association (ASA/AHA)
2015 – Present	World Stroke Organization (WSO)
2016 – Present	European Stroke Organization (ESO)
2015 – Present	Society of Therapeutic Neuro-Intervention (STNI)

Teaching:

Undergraduate Medical Students

- University of Birmingham
- University of Leicester
- Guys King's St Thomas Medical School London
- University College London

Residents/Fellows Mentoring

Neurointerventional Radiology NIR, University of Michigan:

2011 - 2012	Augusto Elias, M.D.
2012 – 2013	Farid Aladham, M.D. Tristram Horton, M.D.
2013 – 2014	Venu Vadlamudi, M.D. Chris Roark, M.D. William Stetler, M.D.
2014 – 2015	Chris Roark MD Ravi Shastri MD
2015 – 2016	Ravi Shastri MD Julius Griauzde MD
2016 – 2017	David Andrew Wilkinson MD

Luis Savastano MD

Neuro-Diagnostic Radiology NDR, University of Michigan:

2009 – 2010	Ryan Dvorak, M.D. Aaron Gibson, D.O. Suyash Mohan, M.B.B.S. Seetha Vakhariya, M.D.
2010 – 2011	Amit Balgude, M.D. Augusto Elias, M.D. Nickoleta Hoefling, M.D. Ajaykumar Morani, M.D. Amir Moubayed, M.D.
2011 – 2012	Asif Abdullah, M.D. Mohammad Arabi, M.D. Thomas Bryson, M.D. Alex Dombrowski, M.D. Philip Lobert, M.D.
2012 – 2013	Alex Brown, M.D. William Godfrey, M.D. Krishna Perni, M.D. Justin Waters, M.D. Page Wang, M.D.
2013 – 2014	Mark Buehler II, M.D. Aaron Hurlbut, M.D. I. Rekha Messa, M.D. Ryan Nichols, M.D. Sachin Patel, M.D. Ravi Shastri, M.D.
2014 – 2015	Anthony Livorine MD Dylan Samarwikarma MD Colin McKnight MD Rickin Shah MD Michael Adix MD Abhijit Patil MD
2015 – 2016	B. Dan Pipitone Jeremy Clark Nathan Hill Gretchen Quinones Barbosa Eric Luao Salman Mohiuddin

2016 – 2017 Jason Kramer

Ezra Hagerty Andrea Moore Karl Kado Julius Griauzde Ciprian Gradinaru

Reviewer for Peer-reviewed Journals

- European Radiology Neuro Section Head on the Scientific Editorial Board
- Journal of Cerebral Blood Flow & Metabolism (JCBFM)
- Academic Radiology
- Postgraduate Medical Journal
- PLoS One
- Neurosurgery
- Journal of Neurointerventional Surgery
- Neurosurgery
- Journal of Neurosurgery
- World neurosurgery

Society Membership

- SNIS Society of Neurointerventional Surgery Senior Member
- ASA/AHA American Heart & Stroke Association
- ESMINT European Society of Minimally Invasive Neurological Tehrapy
- RSNA Radiological Society of North Anmerica
- ASNR American Society of Neuroradiology
- ASPNR American Society of Pediatric Neuroradiology
- ESO European Stroke Organization
- WSO World Stroke Organization
- WFITN World Federation of Interventional Neurotherapeutics
- AANS/CNS American Association of Neurosurgeons/Cerebrovascular Neurosurgery
- STNI Society of Therapeutic Neurointervention
- UKNG UK Neurointerventional Group

Teaching Experience

International

04/07 National Hospital for Neurology & Neurosurgery

London, England

Teaching OR nurses on neuroangio rota – Technical aspects of endovascular cerebral aneurysm coiling procedures.

National Hospital for Neurology & Neurosurgery

London, England

Teaching pediatric neurology and neurosurgery residents - Pediatric cerebral

neurovascular abnormalities.

National Hospital for Neurology & Neurosurgery

London, England

Teaching anesthesiology residents – Basics of CT and MR and plain film

interpretation.

09/14 Apollo Neurointerventional Course International (ANIRCI 2014) – Cerebral

Arterio-Venous Shunts in Adults, Chennai, India

12/14 Advanced Neurointerventional Course (ANIC 2014) – organized jointly by

ESMINT and Swiss Neuro Foundation – Barcelona. Lecture and workshop;

Topic: Follow up Observations (reverse remodeling and healing) and

Management of Recurrent Aneurysm

National

10/11, 10/12, Michigan State Medical Society (MSMS) Annual Meeting, Somerset Inn, Troy,

10/13, 10/14 Michigan. Update in Cerebrovascular Disease Management Annual course.

Course Director for 2014 session.

Institutional

9/10 Nurse Practitioners of Michigan – Acute Stroke Intervention: An Update

Grand Rapids, Michigan USA

01/11 University of Michigan

Ann Arbor, MI

Annual Neurovascular lectures for Neurosurgery Residents in the Neurosurgery Programme at University of Michigan – Diagnostic

Cerebral and Spinal Angiography.

04/11 University of Michigan

Ann Arbor, MI

Neurology Grand Rounds, Unique angiographic appearance of venous

sinuses in the spinal canal in the context of spinal dural fistula.

05/11 University of Michigan

Ann Arbor, MI

Neurology Patient Conference, the same patient with spinal dural fistula

was presented.

08/11 University of Michigan

Ann Arbor, MI

Neurology Patient Conference: CCF and endovascular management.

08/11 University of Michigan

Ann Arbor, MI

Neurology Grand Rounds, 3rd Nerve Palsy.

09/11 University of Michigan

Ann Arbor, MI

Annual Neurovascular lectures for Neurosurgery Residents in the Neurosurgery Programme at University of Michigan – Diagnostic

Cerebral and Spinal Angiography.

11/11 University of Michigan

Ann Arbor, MI

Ophthalmology Grand Rounds, 3rd Nerve Palsy.

07/12 University of Michigan

Ann Arbor, MI

Annual Neurovascular lectures for Neurosurgery Residents in the Neurosurgery Programme at University of Michigan – Diagnostic

Cerebral and Spinal Angiography.

08/12 University of Michigan

Ann Arbor, MI

Neurosurgery first year Residents teaching as part of their Neuro-critical care curriculum; Basic considerations in cerebral and spinal angiography.

09/13 University of Michigan

Ann Arbor, MI

Neurosurgery residents teaching: Diagnostic Cerebral Angiography -

exposure in simulation lab at Towsley Center.

09/13 University of Michigan

Ann Arbor, MI

Weekly Neuroradiology Interesting Case Conference – for

Neuroradiology/Radiology Residents & Fellows.

07/14 University of Michigan

Ann Arbor, MI

Annual Neurosurgery Resident Lectures: Cerebrovascular Anatomy – An

Angiographic Perspective.

08/14 University of Michigan

Ann Arbor, MI

Neurointerventional lecture Series: Neurointerventional Radiology: An

Overview Part – I

09/14 University of Michigan

Ann Arbor, MI

	Neurointerventional lecture Series: Neurointerventional Radiology: An Overview Part – II
10/14	Neuro-ICU interns skills month: NIR teaching – Basics of Cerebral and Spinal angiography and hands on session at the Twosley Simulation Center. University of Michigan, Ann Arbor, MI
1/15	Kellogg Eye Center, University of Michigan, Ann Arbor MI Mid-winter Neuroophthalmology Symposium The Endovascular Revolution: Coils Stents and Liquid Embolics
7/15	Neurology Grand Rounds: Neurointervention In Acute Ischemic Stroke. Danto Auditorium, CVC, University of Michigan Health System
11/15	Neuro-ophthalmology Grand Rounds: Difficult CCF endovascular treatment. Kellogg Conference Center, University of Michigan Health System
8/16	ENT grand rounds: Carotid Blowout Syndrome
10/16	Neurosurgery Resident NIR Teaching: Intern Skills Month – cerebral & spinal angiography
11/16	Pediatric Anesthesia Teaching rounds: Retinoblastoma & Chemosurgery
1/17	Anesthesia Department: Update on treatment of Neurovascular diseases
2/17	Neurology Resident Teaching Rounds – Non-invasive MRI: Could it improve our understanding of ICH – A translational perspective
10/17	Neuroangiography for first year Neurosurgery Residents: Skills Month
10/17	Pipeline Flow diversion for Aneurysms causing 3 rd Nerve palsy: Neuro-ophthalmology Grand Rounds
12/17	Neurointervention in Acute Ischemic Stroke: Neuroanesthesia Fellow Lecture
12/17	Neurointervention in Acute Ischemic Stroke: Michigan VIR Tech Chapter
02/18	Neurointervention in Acute Ischemic Stroke: Michigan VIR Didactic Lectures
04/18	Neurointervention in Acute Ischemic Stroke: Stroke Day for Nurses in Stroke Unit and NICU
6/2018	Acute Neurointervention is ischemic stroke: for Neurodiagnostic Radiology (NDR) Fellows

10/2018	Ophthalmology grand rounds: IA treatment of expleomorphic adenocarcinoma of lacrimal gland
02/2019	Stroke Symposium: Comprehensive stroke center Metro Health Grand rapids
10/2019	Neurosurgery Intern skills month: Cerebral Angiography
08/2020	Presurgical cerebral tumor embolization: Neurosurgery Grand Rounds
10/2020	Flow diverter stent based treatment of cerebral aneurysm: Neurosurgery Grand rounds
11/2020	Tissue iron quantification by MRI in ICH: Evidence for Human Translation – Radiology Department Research grand rounds
01/2021	Neuroanesthesia Fellow Lecture: Neurointerventional Radiology Update for Neuroanesthesia

Informal Tutorials

2001	Surgical residents preparing for Membership of the Royal College of Surgeons
2007	Radiology residents preparing for Fellow of the Royal College of Radiologists

Committee, Organizational, and Volunteer Service:

International

10/2020	Associate Editor: BMC Neurology
02/01/2018	Head of Neuro-section in Editorial Board of European Radiology (Largest Radiology Journal of Europe impact factor 4).
05/16/12	Moderator, Session for Percutaneous Embolization of Hypervascular Head and Neck Tumors, World Federation of Skull Base Society Meeting, Brighton, United Kingdom.
01/2015	Scientific Editorial Board Member: European Radiology (Impact Factor – 4.4) Neuro Section (Neurointerventional & Neuro-diagnostic Radiology).
7/2019	Chair & Founder - Pediatric Neurointervention Committee at SNIS
Institutional	
Since 2013	Stroke Quality Peer Review Committee
Since 2013	Stroke Quality Steering Committee

Since 2013	Stroke Arrival Process Lean Project
2013	Heparin safety in NIR project – completed with implementation of new recommendations in Adult and Pediatric NIR practice. Project awarded institutional best practice initiative.
National	
5/2010	Moderator, Parallel Scientific Session, American Society of Neuroradiology, San Diego, CA.
12/08/11	Member of panel for Human Ischemic Pre-conditioning workshop (2 nd symposium), University Medical School, Miami, Florida.
9/27/2014	Co-Chair session VIII – Brain Edema & Brain Protection – Brain Edema Conference 2014, LA, USA

Moderator: Neurointerventional Session: RSNA 2016

Bibliography:

11/28/2016

Peer-Reviewed Journals and Publications

- 1. **Chaudhary N**, Chetter IC, Renwick PR. Arterio-venous fistulae of the superficial temporal artery: a case report and literature review. *EJVES Extra*. 2001; 2(6): 102 104.
- 2. **Chaudhary N**, Dyde R, Chetter IC, Johnson BF. The consequences of an abdominal aortic aneurysm infected with Methicillin-resistant Staphylococcus aureus (MRSA). *Eur J Vasc Endovasc Surg.* 2001; 22(6): 568 569.
- 3. **Chaudhary N**, Longworth S, Sell PJ. Management of mechanical low back pain- a survey of beliefs and attitudes in GPs from Leicester and Nottingham. *Eur J Gen Pract*. 2004; 10(2): 71 72.
- 4. Connor SEJ, Tan G, Fernando R, **Chaudhary N**. Pseudofractures of the face and skull base on multislice CT A pictorial review. *Clin Radiol*. 2005; 60(12): 1268 1279.
- 5. Ng L, **Chaudhary N**, Sell P. The efficacy of corticosteroids in periradicular infiltration for chronic radicular pain: a randomized, double-blind, controlled trial. *Spine* (*Phila Pa 1976*). 2005; 30(8): 857 862.
- 6. Connor SEJ, **Chaudhary N**, Fareedi S, Woo EK. Imaging of muscular denervation secondary to motor cranial nerve dysfunction. *Clinical Radiology* 2006; 61(8): 659 669.

- 7. Connor SEJ, MRCP, FRCR, N Chaudhary, MRCS, FRCR. Imaging of maxillofacial and skull base trauma. Imaging, 19 (2007), 71 82.
- 8. S E J Connor, S Hussain, E Woo, S Morley, S H Liyanage, S P Spencer, K M Hogarth, J Makdissi, K S S Bhatia, T Iyngkaran, P S Richards, **N Chaudhary**, C Micallef, D E Saunders, A Siddiqui, R Jones, R Spendiff, and S Fareedi. Picture Quiz. Imaging; 19 (2007): 122 131.
- 9. Connor SE, **Chaudhary N**. CT-Guided percutaneous core biopsy of deep face and skull base lesions. *Clinical Radiology*. 2008; 63(9): 986 994.
- 10. Tay E, Gibson A, **Chaudhary N**, Olver J. Idiopathic Orbital Inflammation with Extensive Intra and Extra-cranial Extension Presenting as 6th Nerve Palsy: A Case Report and Literature review. *Orbit*. 2008; 27(6): 458 461.
- 11. Tafazal S, Ng L, **Chaudhary N**, Sell P. Corticosteroids in peri-radicular infiltration for radicular pain: a randomized double blind controlled trial. One year results and subgroup analysis. *Eur Spine J.* 2009; 18(8) 1220 1225.
- 12. **Chaudhary N**, Gemmete JJ, Thompson BG, Pandey AS. Intracranial endovascular balloon test occlusion-indications, methods, and predictive value. *Neurosurg Clin N Am*. 2009; 20(3): 369 375.
- 13. **Chaudhary N**, Davagnanam I, Ansari SA, Pandey A, Thompson BG, Gemmete JJ. Imaging of Intracranial Aneurysms Causing Isolated Third Cranial Nerve Palsy. *J Neuroophthalmol*. 2009; 29(3): 238 244.
- 14. Gemmete JJ, **Chaudhary N**, Pandey A, Gandhi D, Sullivan SE, Marentette LJ, Chepeha DB, Ansari SA. Usefulness of Percutaneously Injected Ethylene-Vinyl Alcohol Copolymer in Conjunction with Standard Endovascular Embolization Techniques for Preoperative Devascularization of Hypervascular Head and Neck Tumors: Technique, Initial Experience, and Correlation with Surgical Observations. *AJNR Am J Neuroradiol*. 2010 31(5): 961 966.
- 15. Gemmete JJ, **Chaudhary N**, Pandey A, Ansari S. Treatment of carotid cavernous fistulas. *Current Treat Options Neurol*. 2010 12(1): 43 53.
- 16. Gemmete JJ, **Chaudhary N**, Pandey AS, McHugh JB, Marentette LJ. Complete devascularization of a juvenile angiofibroma by direct percutaneous embolization with only ethylene vinyl alcohol copolymer (Onyx) through a single needle placement. *J Neurointerv Surg.* 2011; 3(2): 191 193.
- 17. Oweis Y, Gemmete JJ, **Chaudhary N**, Pandey A, Ansari S. Delayed Development of Brain Abscesses Following Stent-Graft Placement in a Head and Neck Cancer Patient Presenting with Carotid Blowout Syndrome. *Cardiovasc Intervent Radiol*. 2011; 34 Suppl 2: S31 35.

- 18. Gemmete JJ, **Chaudhary N**, Potti TA. Superficial Burn from Application of V+Pad to Obtain Hemostasis in an Infant. *Cardiovasc Intervent Radiol.* 2011; 34(4): 877 879.
- 19. Potti TA, Gemmete JJ, Pandey AS, **Chaudhary N**. Trigeminocardiac reflex during the percutaneous injection of ethylene vinyl alcohol copolymer (Onyx) into a juvenile nasopharyngeal angiofibroma: a report of two cases. *J Neurointerv Surg*. 2011; 3(3): 263 265.
- 20. Ansari SA, Dueweke EJ, Kanaan Y, **Chaudhary N**, Gandhi D, Thompson BG, Gemmete JJ. Embolization of intracranial aneurysms with second-generation Matrix-2 detachable coils: mid-term and long-term results. *J Neurointervent Surg*. 2011; 3(4): 324 330.
- 21. Shah H, Gemmete JJ, **Chaudhary N**, Pandey AS, Ansari SA. Acute life-threatening hemorrhage in patients with head and neck cancer presenting with carotid blowout syndrome: follow-up results after initial hemostasis with covered-stent placement. *AJNR Am J Neuroradiol*. 2011; 32(4): 743 747.
- 22. Shah HM, Gemmete JJ, **Chaudhary N**, Pandey AS, Ansari SA. Preliminary experience with the percutaneous embolization of paragangliomas at the carotid bifurcation using only ethylene vinyl alcohol copolymer (EVOH) Onyx. *J Neurointervent Surg*. 2011; 4(2): 125 129.
- 23. **Chaudhary N**, Pandey AS, Gemmete JJ. Intervention in acute cerebral ischaemic stroke: a review of the role of pharmacological therapies and intra-arterial mechanical thrombectomy devices. *Postgrad Med J.* 2011; 87(1032) 714 723.
- 24. **Chaudhary N**, Pandey AS, Thompson BG, Gandhi D, Ansari SA, Gemmete JJ. Utilization of the Neuron guide catheter for treatment of cerebral vascular pathology: continued experience with ultra-distal access into the cerebral vasculature. *J Neurointervent Surg*. 2012; 4(4): 301 306.
- 25. Gao MC, Gemmete JJ, Pandey AS, **Chaudhary N**. Treatment of a vulnerable intracranial stenosis under proximal flow reversal with balloon angioplasty and stent placement. *J NeuroIntervent Surg.* 2012; 4(3) e7.
- 26. Gemmete JJ, Pandey AS, **Chaudhary N**, Potti TA. Paradoxical embolus to the brain from embolization of a carotid body tumor. *J Neurointervent Surg.* 2012; 4(4) e12.
- 27. Khan A, **Chaudhary N**, Pandey AS, Gemmete JJ. Direct puncture of the highest cervical segment of the internal carotid artery for treatment of an iatrogenic carotid cavernous fistula in a patient with Ehlers-Danlos syndrome. *J Neurointerv Surg.* 2012; 4(5): e29.
- 28. Rajajee V, Fletcher JJ, Pandey AS, Gemmete JJ, Chaudhary N, Jacobs TL, Thompson BG. Low pulsatility Index on Transcranial Doppler is an Independent Predictor of Symptomatic Large Vessel Vasospasm after Aneurysmal Subarachnoid Hemorrhage. *Neurosurg*. 2012;

- 29. Gemmete JJ, Patel S, Pandey AS, Sullivan SE, McKean EL, Marentette LJ, **Chaudhary N**. Preliminary Experience with the Percutaneous Embolization of Juvenile Angiofibromas Using Only Ethylene-Vinyl Alcohol Copolymer (Onyx) for Preoperative Devascularization Prior to Surgical Resection. *AJNR Am J Neuroradiol*. 2012 Apr 12.
- 30. Pandey AS, Thompson BG, Gemmete JJ, **Chaudhary N**. Cerebral collateral circulation: integral to defining clinical outcome in acute cerebral ischemia. *World Neurosurg*. 2012; 77(2): 240 242.
- 31. Orringer D, Lau D, Khatri S, Zamora-Berridi GJ, Zhang K, Wu C, **Chaudhary N**, Sagher O. Extent of resection in patients with glioblastoma: limiting factors, perception of resectability, and effect on survival. *J Neurosurg*. 2012; 117(5): 851 859.
- 32. Stetler WR Jr, **Chaudhary N**, Wilson TJ, Pandey AS. Indirect carotid-cavernous fistula following minor head trauma treated with incomplete radiographic endovascular occlusion. *BMJ Case Rep.* 2012 Sep; pii: bcr0320126004.
- 33. Roberts DA, Balter JM, **Chaudhary N**, Gemmete JJ, Pandey AS. Dosimetric measurements of Onyx embolization material for stereotactic radiosurgery. *Med Phys.* 2012; 39(11): 6672 6681
- 34. Gemmete JJ, **Chaudhary N**, Pandey AS, Gandhi D, Ansari SA. Arteriovenous malformation of the neck: an unusual cause of hoarseness successfully treated using endovascular techniques. *Ear Nose Throat J.* 2013; 92(10-11): E21.
- 35. Gemmete JJ, **Chaudhary N**, Pandey AS, Oweis Y, Thompson BG, Maher CO, Gandhi D, Ansari SA. Initial experience with a combined multidetector CT and biplane digital subtraction angiography suite with a single interactive table for the diagnosis and treatment of neurovascular disease. *J Neurointervent Surg*. 2013; 5(1): 73 80.
- 36. Balgude A, Morani A, **Chaudhary N**, Gemmete JJ, Pandey A, Thompson BG, Srinivasan A. Recognition and Treatment of Craniocervical Vascular Complications Encountered During Diagnostic and Interventional Cerebral Angiography. *Can Assoc Radiol J.* 2013; 64(3): 246 252.
- 37. Stetler WR, **Chaudhary N**, Thompson BG, Gemmete JJ, Maher CO, Pandey AS. Prasugrel is effective and safe for neurointerventional procedures. *J Neurointerv Surg*. 2013; 5(4): 332 336.
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- 4. Shah HM, Gemmete JJ, **N Chaudhary**, Pandey AS, Ansari SA. Preliminary Experience with percutaneous Embolization of Paragangliomas at the carotid bifurcation using only Onyx. *J NeuroInterv Surg*. 2012; 4(2): 125 129.

Ongoing/Completed other research projects:

Basic Science Research in collaboration with Neurosurgery:

Collaborative Cerebrovascular animal laboratory space with Neurosurgery has been set up in the Neurosurgery Animal laboratory housed at the BSRB.

- Radiology Research Seed Grant awarded 7/14/2011 PI Analyzing healing of iatrogenic aneurysms in rat models specifically looking at effects of Aspirin and Plavix. Manuscript submitted for peer review
- Co PI with Completed Protocols Approved by UCUCA & IRB for initial experiments aimed at better understanding of aneurysm healing with various in situ coils currently on the market.
- 7T MRI gradient echo image correlation of organized tissue formation in the iatrogenic Rat external carotid artery aneurysm model at day 14 following aneurysm embolization with measurements performed at the carotid bifurcation histological specimen under light microscopy completed.
- Aims of performing bench to bedside translational research to improve outcome in patients with cerebrovascular diseases. DTI imaging role in Hemorrhagic and Ischemic Stroke – ongoing study
- Co PI Role of Ultrasound tagged Near Infra Red Spectroscopy (NIRS) in patients with vasospasm secondary to SAH ongoing study.
- Ongoing project looking at iron quantification on MR in patients with hemorrhagic stroke R21 funded from July 2017.
- Co PI on project on phase 1 trial of Minocycline in Subarachnoid Hemorrhage patients as iron chelating agent looking at difference in patient outcomes. Potential R01 grant application in 2015.
- RO1 applied for as PI October 2020. Role of markers of brain tissue injury on MRI in human ICH.

Clinical Research Collaboration:

- Clinical collaboration has been set up with Ophthalmology and Pediatric
 Oncology IA Chemotherapy for Retinoblastoma: Clinical service established
 with Ocular Oncologist Dr. Hakan Demirci; A Michigan First 2012.
- Site PI for DEFUSE 3 Multicenter stroke trial that established stroke thrombectomy for acute Ischemic stroke patients with large vessel occlusion, upto 16 hrs from stroke.
- Site PI for the TIMELESS trial which is ongoing looking at role of tenecteplase in patients with large vessel occlusion and thrombectomy.
- Co-Investigator MR RESCUE Multicenter Randomized clinical trial to assess role of CT/MR perfusion in selecting patients for intra-arterial mechanical thrombectomy.
- Co-Primary Investigator in setting up of THERAPY trial Multicenter national randomized controlled trial to evaluate the role of intra-arterial mechanical thrombectomy in patients with CT proven at least 8 mm clot burden in the MCA randomized to standard medical therapy.

- Co Investigator HEAT trial Analyzing effectiveness of hydrogel coated coils compared to bare platinum coils.
- Co –Investigator FEAT trial Target 10 vs 18 coil in the framing of large aneurysms lead to reduced aneurysm recurrence.
- Currently exploring collaborative research with Electrical Engineering Department to investigate clinical application of microsensors in neurovascular disease animal models.
- Role of DTI in Ischemic Stroke PI IRB Approved