

## CURRICULUM VITAE

**NAME:** **David B. Niemann, MSc (Oxon), MD**  
Associate Professor of Neurosurgery and Radiology  
Cerebrovascular & Endovascular Surgery  
Department of Neurological Surgery

**Office Address:** University of Wisconsin Hospital and Clinics  
Department of Neurological Surgery  
600 Highland Avenue, CSC, K4/858  
Madison, Wisconsin 53792

**Office Phone:** (608) 265-5967

**Board Certification:** Written Boards, American Association of Neurological Surgery, 1997  
Oral Boards of American Association of Neurological Surgery, 2008

**Licensure:** Licensed Medical Doctor, State of Wisconsin, 2003  
Full Registration: The General Medical Council, U.K.

### FORMAL EDUCATION:

**Undergraduate:**  
1984-1988 Northwestern University  
Evanston, Illinois  
B. S. Degree

**Medical School:**  
1988-1993 Medical College of Wisconsin, Milwaukee  
Milwaukee, Wisconsin  
M. D. Degree

**Post-Grad:**  
1993-1994 Internship: Department of Surgery  
Medical College of Wisconsin  
Milwaukee, Wisconsin

1994-1999 Residency: Department of Neurosurgery  
Medical College of Wisconsin  
Milwaukee, Wisconsin

1998 Informal Rotation: Interventional Neuroradiology  
University of Wisconsin Hospital and Clinics  
Madison, Wisconsin

1999 Fellowship: Craniofacial Surgery at The Australian Craniofacial Unit

Women's and Children's Hospital/The Royal Adelaide Hospital  
Adelaide, South Australia

- 2000-2002 Fellowship: Interventional Neuroradiology  
Department of Neuroradiology and Neurosurgery  
Radcliffe Infirmary, Oxford University, Oxford, U.K.
- 2005-present Founder and Director of Brain Aneurysm and Stroke Support Group,  
Madison, Wisconsin

**Other Graduate Degrees:**

- 2002 M.Sc Neurointerventional Radiology  
Thesis: Phase Contrast MRA can detect periprocedural anatomic and hemodynamic changes in embolized AVMs

**POSITIONS HELD:**

**Faculty Appointments:**

- 2011-present Associate Professor of Neurosurgery & Radiology  
Department of Neurological Surgery  
University of Wisconsin School of Medicine and Public Health  
Madison, Wisconsin
- 2003 – 2011 Assistant Professor of Neurosurgery & Radiology  
Department of Neurological Surgery  
University of Wisconsin School of Medicine and Public Health  
Madison, Wisconsin

**Hospital Appointments:**

- 2003-present Neurosurgery Faculty  
Neurological Endovascular Surgery/Interventional Neuroradiology  
University of Wisconsin Hospitals and Clinics, Madison Wisconsin
- 2003-present Medical Staff Neurosurgeon  
Meriter Hospital, Madison, Wisconsin
- 2004-present Neurosurgery Faculty  
Neurological Endovascular Surgery/Interventional Neuroradiology  
William S. Middleton Memorial Veterans Hospital, Madison, Wisconsin
- 2004-present Medical Staff Neurosurgeon  
St. Mary's Hospital Medical Center, Madison, Wisconsin
- 2004-present Director of Neuroendovascular Service for Neurosurgery

University of Wisconsin School of Medicine and Public Health  
Madison, Wisconsin

2006-present VA Neuroendovascular Vision 12 Clinic Committee  
William S. Middleton Memorial Veterans Hospital, Madison, Wisconsin

**PROFESSIONAL APPOINTMENTS:**

Advisor to Covidien (eV3)  
Advisor for Boston Scientific  
Advisor to MicroVention Inc.  
Advisor to Micrus Corporation  
Advisor to Penumbra Inc.  
Advisor to Reverse Medical Corporation  
Advisor to Sequent Medical  
Advisor to Siemens Medical Solutions  
Advisor to United Biologics, Inc.  
Co-Founder of Uppercut Pty. Ltd. (PC based 3D Medical Imaging Software and Systems); Adelaide, South Australia  
Reviewer for the American Journal of Neuroradiology, 2004–2005  
Reviewer: Congress of Neurological Surgeons, 2008  
Reviewer: Journal of NeuroInterventional Surgery

**Other Appointments:**

1987-1988 Researcher: Studies relating brainstem activity (PAG) to vocalization, laryngeal, and respiratory muscles.  
Department of Communication Sciences, Disorders, Neurobiology, and Physiology, Northwestern University. Evanston, Illinois

1996-1998 Teaching Assistant, Neuropathology, Neuroanatomy  
Medical College of Wisconsin, Milwaukee, Wisconsin

Team Rofus Physician  
Ringside Physician-International Kickboxing Federation  
Ringside Physician-Oxford Boxing

Medical Consultant  
Sports Radio Show FM100, Milwaukee, Wisconsin

1997-1998 Residency Guidance Counselor  
Medical College of Wisconsin, Milwaukee, Wisconsin

Teaching Assistant, Neuroanatomy

Marquette University, Milwaukee, Wisconsin

- 1998      Instructor, Neuroendoscopy Workshop  
Pan-Pacific Surgical Association
- 2000      Consultant Neurosurgeon  
Neurological Surgery of Southeastern Wisconsin  
Waukesha Memorial Hospital, Elmbrook Memorial Hospital  
Waukesha, Wisconsin
- 2001      Tutor, Neuroanatomy, Oxford University

## **COMMITTEES**

### **Medical School:**

CPOE Physician Advisory Committee  
University of Wisconsin Hospitals & Clinics, Madison, Wisconsin

Bi-plane Angiography and XMR Planning Committee  
UW School of Medicine and Public Health, Madison, Wisconsin

Admissions Committee  
UW School of Medicine and Public Health, Madison, Wisconsin

UWHC Carotid Stenting Committee  
University of Wisconsin Hospitals & Clinics, Madison, Wisconsin

Neuroscience Subcommittee – CV Stroke  
UW School of Medicine and Public Health, Madison, Wisconsin

Animal Care Committee  
Medical College of Wisconsin, Milwaukee, Wisconsin

Housestaff Health and Welfare Committee  
Medical College of Wisconsin, Milwaukee, Wisconsin

NES Committee Member  
UW School of Medicine and Public Health, Madison, Wisconsin

Simulation Center Program Committee Member  
UW School of Medicine and Public Health, Madison, Wisconsin

### **Other:**

Society of NeuroInterventional Surgery (Formerly ASITN) Planning Committee 2007  
Angio & Intraop MRI Clinician Leadership Review Committee 2008  
Society of Endovascular Neurosurgeons Committee Member (SENS)  
Society of NeuroInterventional Surgery Committee Member (SNIS)  
Reviewer for Congress of Neurological Surgery, 2008  
Planning and Abstract Review Committee for AANS/CNS Cerebrovascular Jt Section  
Hands-on Resident Course Instructor 2008-  
Rachidian Society Scientific Program Committee, 2008-2009  
Invited participant for Regenerative Medicine Planning Program

### **HONORS AND AWARDS:**

2010-	Americas Best Doctors 2010, 2011
2009	2009 Faculty Teaching Award, Department of Neurological Surgery, University of Wisconsin -Madison
1988	Undergraduate Honors

### **SOCIETY MEMBERSHIPS:**

Wisconsin State Medical Society  
Wisconsin Neurosurgical Society  
American Association of Neurological Surgeons  
Congress of Neurological Surgeons  
Society of Neuro Interventional Surgery  
American Heart Association

### **TEACHING ACTIVITIES:**

#### **Local**

1. Instructor for Patient, Doctor & Society Teaching, University of Wisconsin-Madison, January – May, 2004.
2. Clerkship mentor for 3rd and 4th year medical students for both neurosurgery and neuroradiology June 2004 to present. University of Wisconsin-Madison
3. Cerebral Angiographic Anatomy Resident Lecture Series, 2003–04. University of Wisconsin-Madison
4. Neuroradiology and Neurosurgery Journal Club host, annually from 2004–present. University of Wisconsin-Madison
5. Neuroradiology Fellows Lecturer, Lecture Series I: AVMs, II: AVM/Embolization, III: ISAT. University of Wisconsin Hospitals and Clinics, Madison, Wisconsin. March and June 2004.

6. Organizer and Director of Endovascular Workshops for Residents and Fellows, University of Wisconsin-Madison, July 2004–present.
7. Organizer and Director of Endovascular Training for outside Physicians for New Technologies, University of Wisconsin-Madison, June 2004, June 2005, 2006, 2007 – present.
8. Invited lecturer: Endovascular Treatment Techniques and Devices Lecture Series for Radiology Technicians and Nursing Staff, University of Wisconsin-Madison, 2005.
9. Medical student teacher involving 3rd and 4th year students for both neurosurgery and neuroradiology in angiography lab. 2005 – present.
10. Director, Endovascular Neurosurgical Fellows Symposium. University of Wisconsin-Madison, March 2006, 2007, 2008
11. UW Clerkship Lectures: Head Injury, July, August, September 2006-07, University of Wisconsin-Madison
12. Director, UW Interventional Neuroradiology Fellows Conference (Presented lectures and led hands-on workshops in angio lab). November, 2006, 2007, 2008
13. Endovascular mini-fellowship completed with Dr. Azam Ahmed, Sept.-Dec. 2007.
14. Resident research mentor for Amrendra Miranpuri, Andrew Bauer, Azam Ahmed, Roham Moftakhar, and Jane Ng. 2007 - 2011
15. Organizer and director: UW Resident angiography suite training session with Siemens Neurostar angiography and phantom models. University of Wisconsin-Madison, 2007, 2008, 2009.
16. UW Clerkship weekly mentor/monthly Multi-disciplinary Case Conference. 2008-present University of Wisconsin-Madison.
17. Invited Instructor for UW Spine Course, University of Wisconsin-Madison. 2008-09
18. Invited instructor and Co-Director: Annual Wisconsin Skull Base Conference, University of Wisconsin-Madison, 2009, 2010, 2011
19. Invited instructor: UW Neuroscience Anatomy Conference: Spinal AVM Tx, Onyx Tx. etc., 2008, 2008. University of Wisconsin-Madison
20. Invited Instructor: Weekly Neurology Stroke Conference. 2008 to present. University of Wisconsin-Madison
21. Instructor of Angio suite training session with Siemens Neurostar angio and phantom models with neurosurgery residents and fellows, March and April, 2010. University of Wisconsin-Madison.
22. Research mentor, “Establishing resident training and competency standards in cerebral angiography” with Dr. Amrendra Miranpuri. John Sandin Creativity and Research Award awarded in June, 2010. University of Wisconsin-Madison.
23. Invited Instructor: UW Neuroscience Anatomy Conference: Microsurgical Anatomy of the Posterior Fossa, Posterior Skull Base, and Cerebrovascular Occlusive Diseases, December 2010. University of Wisconsin-Madison.
24. Organizer, lecturer and instructor for residents and fellows: BoneScalpel Workshop. Madison, WI. July, 2011.
25. Develop endovascular simulator program with models from grant of United Biologics for resident and fellows with continued resident endovascular workshops. 2011 to present. University of Wisconsin-Madison

26. Aneurysm Treatment with Adjunctive Devices Training Session w/Drs. Miranpuri, Chuang, Sandoval-Garcia. University of Wisconsin-Madison, February 2012.
27. Carotid Stent Deployment Training Session w/Drs. Miranpuri, Bauer, Chuang. University of Wisconsin-Madison, May, 2012.
28. Carotid Stent and Distal Protection Training Session on simulators w/Drs. Miranpuri and Chuang, University of Wisconsin-Madison, June 2012
29. Hands-on Instructor: Covidien Fellows Course, December, 2012, Houston, TX

### **Regional**

1. Invited instructor: Brain Tumors, Medical College of Wisconsin, 1998.
2. Invited instructor: Neurosurgical Issues, Marquette University, 1998
3. Invited instructor: Head Trauma, State of Wisconsin Surgical Technician Society, 1998
4. Invited instructor: Midwest Neurosurgical Society 2010 Iowa-Midwest Endovascular Fellow Course, Iowa City, IA, June, 2010, 2011

### **National**

1. Invited Onyx proctoring for outside neurosurgeons in Nebraska, Illinois, Ohio, New York, 2005.
2. Invited instructor Nexus coiling/Micrus coil training sessions: ASITN Conference, August 2005, Oahu, Hawaii.
3. Invited lecturer/instructor: Biannual National Onyx Training Session for attending neurosurgeons and interventional radiologists, MERI Institute, Memphis, 2005 to present.
4. Invited Onyx proctoring for outside neurosurgeons in Louisiana, Illinois, California 2006
5. Invited Onyx and Wingspan stent proctoring for outside neurosurgeons in Virginia, Kentucky, Minneapolis, Tennessee, Texas, Wisconsin, California, 2007.
6. Invited Onyx proctoring for outside neurosurgeons in Wisconsin, Utah, California. 2008.
7. Appointed Instructor for Hands-on Resident Endovascular Course at AANS/CNS Joint Section Meeting, San Antonio, TX, February 2010.
8. Invited Lecturer/Instructor, "Hands-on Endovascular Teaching Course for Neurosurgery Residents and Fellows, MUSC, Charleston. March 2010.
9. Invited Procter: CPT Workshops and Vascular Lab Workshops, CLOTS Meeting, Society of Interventional Radiology, Dallas, TX October 2010
10. Oral Boards Course Instructor: Congress of Neurological Surgeons, October 2010, San Francisco, CA.
11. Instructor and Expert panelist. 2nd Annual SIR Catheter Lysis of Thromboembolic Stroke (CLOTS) Meeting. Washington DC, October 2011.
12. Invited Instructor for Hands-on Resident Endovascular Teaching Course for Neurosurgery Residents and Fellows, AANS/CNS Joint Section Meeting, Los Angeles, CA, February 2011.

13. Invited Instructor for Hands-on Resident Endovascular Teaching Course for Neurosurgery Residents and Fellows, AANS/CNS Joint Section Meeting, New Orleans, LA, February 2012.

### **International**

1. Endovascular Seminar/Hands-On Workshop for International Physicians In The Use of Onyx for Aneurysm and AVM Treatment. Liege, Belgium, 2000-2002.
2. Consultant for Training Physicians in UK on Perclose Device, 2000–2002.
3. Consultant for Training Physicians on Micrus Coil in UK, 2000–2002.
4. Assistant for Boston Scientific GDC Course, Oxford, 2001.
5. Subarachnoid Hemorrhage. Oxford/Radcliffe Nursing Education, 2002

### **PRESENTATIONS/LECTURES:**

#### **Local:**

1. Invited speaker: New Endovascular Technologies in the Treatment of Ischemic and Hemorrhagic Stroke. Presented at the UW Retirement Association Stroke Symposium, Madison, Wisconsin. October, 2004.
2. Invited speaker: Vasoactive Therapy in Critically Ill Patients, Madison, WI January, 2005.
3. Director/speaker: Balloon Remodeling vs. Stenting for Aneurysm Reconstruction. UW Fellows Conference, Madison, WI, November 2006.
4. Invited lecturer: Clip vs Coil for aneurysms: Local AANN Neuroscience, Madison, WI, May 2006
5. “Treatment Strategies for Ruptured and unruptured Aneurysms” talk presented at UW-Madison Subarachnoid Hemorrhage Support group meetings: Quarterly, Bi-monthly, and now monthly meetings continue from 2006 – present.
6. Invited speaker: Annual Neuroendovascular Treatment of Cerebrovascular Disease. 3<sup>rd</sup> and 4<sup>th</sup> year UW medical students. 2007, 2008, 2009. Madison, Wisconsin
7. Invited speaker: Neuroradiology Teaching Conference “Intracranial Stenting”. University of Wisconsin-Madison, December, 2008
8. Invited Lecturer at Annual Neuroradiology Boot Camp, University of Wisconsin-Madison, 2009 to present. Madison, Wisconsin
9. Invited speaker: “Intracranial Stenting” 2009 UW Health Stroke Conference, April 17, 2009, Madison, Wisconsin
10. Invited Speaker, Training Opportunities for Emergency Medical Responders: Stroke Night. Educational session with ER/Paramedics and tour of facilities. University of Wisconsin-Madison, November, 2009. Madison, Wisconsin
11. Invited Speaker, “How to deal with stroke.....STAT” UW What to Order When – Emergency Edition, WOW-EE Conference, April 2010, UW-Madison Wisconsin
12. Invited speaker: Stroke Prevention, Oak Park Retirement Home, Madison, WI May 2010



13. Invited lecturer- Radiology Resident Summer Conference: “Endovascular Treatment of Stroke”. July, 2010 Madison, WI
14. Invited Speaker, “Brain Imaging”. UW Department of Orthopedics and Rehabilitation, Madison, WI. November, 2010.
15. Invited lecturer: Radiology Resident Summer Conference lecturer, “Endovascular Treatment of Stroke”. July, 2010 Madison, Wisconsin
16. Invited speaker: Radiology Boot Camp lecture series. UW-Madison Dept. of Radiology, Madison, WI. September 2011.
17. Invited speaker: EMS Stroke Conference, Madison, WI. October, 2011
18. Invited speaker: Radiology Fellows Conference: Endovascular Ischemic Stroke Treatment. UW-Madison Dept. of Radiology, Madison, WI. Oct. & Dec., 2011.
19. Invited speaker: Angiography interventions I. UW F84 ICU Nursing staff, University of Wisconsin-Madison, February, 2012.
20. Invited speaker: Angiography interventions II. UW F84 ICU Nursing staff, University of Wisconsin-Madison, March 2012.
21. Invited speaker: Endovascular Neurosurgery and Post Op Care. UW D64 Floor Nursing Staff, University of Wisconsin-Madison, May 2012
22. Presentation and abstract: “New Tools and Old Friends for Diagnosis and Assessment of Interventions IVDSA iFlow and High Resolution Imaging.” Niemann D, Ng J, et al. International Intracranial Stent Meeting, October 2012, Madison, WI.

**Regional:**

1. Invited speaker: Endovascular Treatment with Onyx. Grand Rounds at Froedtert Hospital, Milwaukee, Wisconsin. May, 2004.
2. Invited speaker “Nexus Coils: Experimental Model and Clinical Experience with Follow-up,” Neurological Society of America. Kohler, Wisconsin, 2007.
3. Invited speaker: Intracranial stenting for atherosclerotic disease: Continued followup and issues of restenosis. Wisconsin Neurological Society, Wisconsin Dells, WI, January, 2008
4. Invited participant: Regional NES meeting, Green Bay, La Crosse July, 2009
5. Invited Grand Rounds speaker, “Endovascular Treatments for Cerebrovascular Diseases in 2010” Outreach Stroke talk for Mercy Medical Center, Oshkosh WI. April, 2010.

**National:**

1. Invited speaker: Study on the morphometric characteristics of the lateral mass of the cervical spine AANS/CNS Joint Section on Disorders of the Spine and Peripheral Nerves. 1993. Phoenix, Arizona
2. Abstract presented: Anatomically Conformable Three Dimensional (ACT) Detachable Platinum Micro Coil System in the Treatment of Intracranial Aneurysms. AANS Joint Section Chicago, IL, 2002.
3. Abstract presented: Embolization of Brain Arteriovenous Malformations with Ethylene Vinyl Alcohol Copolymer Dissolved in DMSO (Onyx-Liquid Embolic

- System): Evidence in a prospective series of 40 patients. AANS Joint Section, Chicago, IL, 2002.
4. Abstract presented: Embolization of Intramedullary Spinal Cord AVMs with Onyx Liquid Embolic System. AANS Joint Section, Chicago, IL, 2002.
  5. Invited speaker: The Treatment of Large and Giant Aneurysms with Onyx. AANS Joint Section Meeting, Chicago, IL, 2002.
  6. Invited speaker: Brain AVM Treatment Options. AANS Joint Section Meeting, San Diego, CA, February, 2004.
  7. Abstract presented: Use of Liquid Embolics in the Treatment of Neurovascular Disease. Presented at the MANS Conference, Traverse City, Michigan. June, 2004.
  8. Abstract presented: Experimental Model of Subarachnoid Hemorrhage for Combined Angiography/MR Research. ASNR in Seattle, WA, June, 2004.
  9. Poster presented: HydroCoil Embolization Results in Progressive Aneurysm Occlusion and a Trend to Postembolization Aneurysm Shrinkage in Large and Giant Canine Bifurcation Aneurysms. ASNR in Seattle, WA, June, 2004.
  10. Abstract presented: Transverse Sinus Stenting as Treatment for Benign Intracranial Hypertension in Young Male. ASNR in Seattle, WA, June, 2004.
  11. Invited Onyx AVM Proctor Presentation, Chicago, IL. August 2004
  12. Invited speaker: Micrus Detachable Platinum and Cerecyte Microcoils for the Treatment of Intracranial Aneurysms. LINC Meeting, Houston, TX, October, 2004.
  13. Invited speaker: Onyx in Therapy of SCAVMS, Rachidian Society Conference, Hawaii, February 2005.
  14. Invited speaker: Microsurgical Approaches to Anterior Skull Base, Cavernous Sinus and Petroclival Region. Evanston Northwestern Healthcare Seminar, Chicago, IL, April 2005.
  15. Poster presented: Embolization of Brain Arteriovenous Malformations with Ethylene Vinyl Alcohol Copolymer Dissolved in DMS (Only Liquid Embolic System): Experience in a Prospective Series of 51 Patients. ASNR meeting, Niemann, Molyneux, et al. Toronto, Canada, May, 2005.
  16. Abstract presented: Effects of Carotid or Vertebrobasilar Stent Placement on Cerebral Perfusion and Cognition. Turk, Niemann, et al. ASNR, Toronto, Canada, May 2005
  17. Abstract presented: Treatment of Ruptured and Unruptured Aneurysms Utilizing Polyglycolic Acid Treated Platinum Coils (Cerecyte™): ASITN: Oahu, August 2005
  18. Invited symposium presenter: Cerecyte Coils: ASNR meeting, Toronto, Canada. May, 2005
  19. Abstract presented: Treatment of Brain AVMs Utilizing Onyx US Experience: Niemann, Duckweiler, ASITN: Oahu, August 2005.
  20. Invited participant: Nexus Coils in the Treatment of Cerebral Aneurysms, National Webcast meeting. Oct. 2005
  21. Poster presented: CT Perfusion for Detection of Cerebral Vasospasm in Patient with Subarachnoid Hemorrhage. Moftakhar, Niemann, Van Gimple, Turk. CNS Meeting, Boston, October 2005.

22. Abstract presented: Physiologic and Anatomic Assessment of a Canine Carotid Artery Stenosis Model with Phase Contrast Vastly Undersampled Isotropic Projection Imaging (PC-VIPR), Turk A, Johnson K, Lum D, Niemann D, et al. AANS/ASITN, Orlando, 2006.
23. Abstract presented: Utilization of Self Expanding Stents in Distal Small Cerebral Vessels. Turk A, Niemann D, Ahmed A, Aagaard-Kienitz B. AANS/ASITN, Orlando, 2006.
24. Abstract presented: Evaluation of Cerebral Hemodynamic with CT Perfusion Using Gadolinium as an Alternative to Iodinated Contrast: Case Report. Moftakhar, Niemann, Turk, Pulfer. AANS/ASITN, Orlando, Feb 2006.
25. Abstract presented: Endovascular Treatment of a Mid-basilar Artery Fusiform Aneurysm by Dominant Vertebral Artery Occlusion in a Child. Moftakhar R, Niemann D, Aagaard-Kienitz B, Turk A: ASITN, San Diego, May 2006.
26. Poster presented: Non-invasive Measurement of Intra-aneurysmal Pressure Using Magnetic Resonance (MR) Phase Contrast (PC) Vastly Undersampled Isotropic Projection Imaging (VIPR) in Canine Aneurysm Model. Moftakhar R, Aagaard-Kienitz A, Johnson K, Niemann D, et al. ASNR, 2006.
27. Poster presented: Polyglycolic Acid (PGA) Treated Platinum Coils (Cerecyte) for Patients with Ruptured and Unruptured Cerebral Aneurysms: Single Center Experience Aagaard-Kienitz B, Niemann D, Turk A: AANS/ASITN, San Diego, CA, 2006
28. Poster presented: Ischemic Rates Associated with Endovascular Procedures: Retrospective Case Series; Brooks, Turk, Niemann, Aagaard-Kienitz. AANS/ASITN, San Diego, CA, 2006
29. Abstract presented: Barbiturate Electroencephalography (EEG) Burst Suppression for Cerebral Protection During High Risk Carotid Stenting. Aagaard-Kienitz B, Newman G, Sasse F, Turk A, Niemann D: AANS/ASITN, San Diego, CA, 2006
30. Abstract presented: Utilization of Quantitative CTP for Evaluation of Cerebral Perfusion Effects Related to Carotid Stenting, Turk, Niemann, Aagaard-Kienitz ASNR, San Diego, CA, 2006
31. Poster presented: Influence of Neuroform Stent of Aneurysm Retreatment Rates, Turk, Niemann, Aagaard-Kienitz, ASNR, San Diego, CA, 2006.
32. Poster presented: Multiple Intra-arterial Verapamil Infusions for the Treatment of Recurrent Vasospasm After Aneurysmal Subarachnoid Hemorrhage. Ahmed, Aagaard-Kienitz, Niemann, Turk, AANS/ASITN, 2006.
33. Invited Speaker/Moderator Nexus Symposium, ASITN, Puerto Rico 2006.
34. Invited speaker/Moderator, Point/Counterpoint Onyx vs. NBCA, ASITN, Puerto Rico 2006.
35. Invited Speaker: Onyx Users Group, ASITN, Puerto Rico 2006.
36. Moderator/Invited faculty ASITN, "Current Coil Configurations: Do They Make a Difference?" Chicago, June, 2007,
37. Invited speaker/Moderator ASITN, "Onyx HD 500 for Brain Aneurysms: New U.S. Approval—What Lies Ahead" Chicago, June 2007

38. Abstract presented: Intracranial Atherosclerosis treatment With Balloon Expandable and Wingspan Stents: Long Term Outcomes. Ahmed A, Niemann D, et al. CNS, San Diego, CA. September 2007.
39. Invited speaker: Stenting for Intracranial Aneurysms. Rachidian Society, Hawaii, February 2008.
40. Poster presented: Influence of Patient Age and Stenosis Location on Wingspan In-Stent Restenosis. Turk A, Levy E, et al. CNS/ASNR Meeting, New Orleans: May, 2008
41. Abstract presented: C-Arm CT measurement of Cerebral Blood Volume: An Experimental Study in Canines, Ahmed A, Zellerhoff S, et al. ASNR, Lake Tahoe, July, 2008
42. Invited faculty, expert panel: AVM Embolic Agents – What are the differences and how should they be used? ASNR, Lake Tahoe, July, 2008
43. Poster Presentation: Impact of Injection Parameters on Arterial, Capillary and Venous Opacification in Digital Subtraction Angiography. Ahmed A, Duerling S, et al. Presented at ASNR, Lake Tahoe, CA, July, 2008
44. Poster Presentation: Correlation of CTA, Dyna CT, 3D DSA v.s. Direct Anatomic Measurement of Intracranial Vessel Caliber in Cadaveric Specimens: Ahmed A, Niemann D, Baskaya M, Pulfer K, Strother C. Presented at ASNR, Lake Tahoe, CA, July, 2008
45. Abstract presented: Physiologic imaging in endovascular neurosurgery: C-arm CT measurement of cerebral blood volume (CBV) and time resolved digital subtraction angiography (DSA) with color coding (TRACC). NS Academy Meeting, Sedona, AZ 2008
46. Invited participant: Stereotactic XRT Course: AANS, San Diego, 2009
47. Invited speaker: "Possibilities with Neuron Guide Catheter" and "Penumbra Revascularization Stroke Cases" at the Penumbra User Group Meeting, Chicago, March, 2009.
48. Invited speaker: Fellows Course on Endovascular Neurosurgery, Huntington Beach, CA, March, 2009
  - a. Intracranial Stenting
  - b. Balloon Remodeling v.s. Stent
  - c. Complication Avoidance
  - d. Building a Practice
49. Panel Member on Stroke Awareness, Quad City Triathlon, Davenport Iowa, June 2009.
50. Invited Advisor for Axium PGLA Fibered Program, Orange County, CA. February 2010.
51. Poster presented. "Identifying In-stent Stenosis of Stent-coiled Aneurysms Using MR-perfusion. Agrawal B, Niemann D, Turk A, Pulfer K. Presented at AANS Meeting, May 2010, Philadelphia, PA
52. Oral Boards Course Instructor: Congress of Neurological Surgeons, San Francisco, CA. October 2010

53. Instructor and Expert Panelist. 2<sup>nd</sup> Annual SIR Catheter Lysis of Thromboembolic Stroke (CLOTS) Meeting. Dallas, TX, October 2010.
54. Poster presented: "Method Of Validating Middle Cerebral Artery Occlusion Stroke Model With Digital Subtraction Angiography In Rodents" AANS/CNS Joint Cerebrovascular Section Annual Meeting in Los Angeles, California. February, 2011.
55. Poster presented: "Circadian And Climatic Factors In The Onset Of Aneurysmal Subarachnoid Hemorrhage Versus Non-Aneurysmal Perimesencephalic Hemorrhage. AANS/CNS Joint Cerebrovascular Section Annual Meeting in Los Angeles, California. February, 2011.
56. Oral Boards Course Instructor: Faculty Oral Board Remediation Course. Congress of Neurological Surgeons, October 2011, Washington D. C.
57. Moderator: Biophysics of Aneurysm Formation Session 49, American Heart Association International Stroke Conference, New Orleans, February 2012
58. Invited Speaker: Web device CFD and Early Clinical Results. 2012 Cerebrovascular Complications Conference, Jackson Hole, CO, June 18, 2012
59. Invited Speaker: Neurosurgical Angiography Suite: Anatomic imaging with 4D angiography and Omni-Plane Fluoroscopy. 2012 Cerebrovascular Complications Conference, Jackson Hole, CO, June 18, 2012.
60. Poster presented: "4D Digital Subtraction Angiography (DSA): Preliminary Clinical Validation, Implementation and Demonstration of Feasibility." Abstract accepted for poster presentation to SNIS Meeting, February 2013, Hawaii.
61. Poster presented: "Cerecyte Coil Registry: Safety and Efficacy in Treatment of Patients with Ruptured and Unruptured Intracranial Aneurysms." Bauer A, Aagaard-Kienitz B et al. Accepted for poster presentation to SNIS Meeting, February 2013, Hawaii.
62. Poster presented: "Intravenous 3D Digital Subtraction Angiography (IVDSA) for Assessment of Postoperative Intracranial Aneurysm Patients." Abstract accepted for poster presentation at AANS. April 2013, New Orleans, LA
63. Invited Speaker "Management of AVM's" and Hands-on Instructor: Covidien Fellow Course, December, 2012, Houston, TX.
64. Invited speaker: Cerecyte Outcomes, SNIS Conference Lunch Symposium, February 2013, Hawaii.

**International:**

1. Abstract presented: CT Determined Intracranial Volumes for a Normal Population. VIII Congress of the International Society of Craniofacial Surgery, Bologna, Italy, October 1999.
2. Poster presented: Sagittal Synostosis: A Review of Surgical Techniques. VIII Congress of the International Society of Craniofacial Surgery, Bologna, Italy, October 1999.
3. Poster presented: Treatment of ICH caused by Aneurysmal Rupture: Coiling followed by Clot Evacuation. ABC/WIN Val d'Isere France, 2001.

4. Poster presented: Treatment of ICH caused by Aneurysmal Rupture: Coiling followed by Clot Evacuation. WFNS Australia 2001.
5. Abstract presented: Anatomically Conformable Three Dimensional (ACT) Detachable Platinum Micro Coil System in the Treatment of Intracranial Aneurysms. ABC/WIN Val d'Isere, France 2002.
6. Poster presented: Combined Flow and Morphological Assessment of Brain AVMs Undergoing Endovascular Treatment Using 3D P-C MRA. BSNR, U.K. 2001, Symposium Neuroradiologicum, Paris, France, 2002, and WSITN, Brazil, 2003.
7. Abstract presented: Nexus Coils: Exp Model and Early clinical Experience. Niemann D, Pulfer K, Grinde J, Consigny D. ASITN, Puerto Rico 2006.
8. Poster presented: Experience with Alternative Treatment for Intracranial atherosclerosis – Balloon Expandable and Self – Expanding Stents. Niemann D, Turk A, et al. ASITN, Puerto Rico 2006.
9. Abstract presented: Endovascular Stents for Aneurysms and Delayed Stent Stenosis. Niemann D, Fiorella D, et al. Sixth Advanced Aneurysm Treatment Symposium, Oxford, UK, November 2007.
10. Abstract presented: Intracranial Stenting for Atherosclerotic Disease: Continued Data and Insights. Niemann D, Fiorella D, Turk A, Ahmed A, Pulfer, K, Strother C. Sixth Advanced Aneurysm Treatment Symposium, Oxford, UK, November 2007.
11. Abstract presented: Functional MRA expands the characterization of AVMs by providing dynamic whole brain images, measurements of velocity, estimates of wall shear stress and pressure gradients. Bruce, R, Wu Y, Johnson K, Rowley H, Aagaard B, Niemann D, Minstretta C, Turski P. ASNR, Vancouver, May, 2009
12. Poster presented: Time Resolved digital Subtraction Angiography with Color Coding. Aagaard-Kienitz B, Strother C, et. al. Presented to ASNR 2009, Vancouver, May 2009
13. Abstract presented: C-arm CT measurement of CBV in ischemic stroke: An experimental study in canines. Niemann D, Strother C, et al. ASNR Vancouver, May, 2009.
14. Parametric Analysis of 2D Digital Subtraction Angiography for Pre/Post Evaluation of Vasospasm Treatment. Ng J, Royalty K, Pulfer, et al. Abstract presented at 11<sup>th</sup> Annual WFITN Congress, Cape Town, Nov. 2011
15. Intravenous 3 Dimensional Digital Subtraction Angiography (IVDSA) for Assessment of Postoperative Intracranial Aneurysm Patients. Ng J, Royalty K, Pulfer, et al. Abstract presented at 11<sup>th</sup> Annual WFITN Congress, Cape Town, Nov. 2011
16. Endovascular MCAO: A novel of middle cerebral artery occlusion model in rats. Aktüre E, Miranpuri A, Kujoth G, et al. Poster presentation at 11<sup>th</sup> Annual WFITN Congress, Cape Town, Nov. 2011
17. The Woven Endobridge (WEB) Cerebral Aneurysm Device: a review of theoretical and pre-clinical studies and early clinical results. Niemann D, Consigny D, Pulfer K, Strother C. Abstract presented at 11<sup>th</sup> Annual WFITN Congress, Cape Town, Nov. 2011

18. Angiographic Simulation using Silicone Models Improves Trainee Skills. Ng J, Miranpuri A, Almolani A, Nickele C, et al. Abstract presented at 11<sup>th</sup> Annual WFITN Congress, Cape Town, Nov. 2011.
19. Invited Member: Symposium held during WFITN: Anatomic and Physiologic Imaging in New Stroke Angio Suite. 11<sup>th</sup> Annual WFITN Congress, Cape Town, Nov. 2011

## **PUBLICATIONS:**

1. Normal Intracranial Volume and Deformational Plagiocephaly. Niemann D. *Craniofacial Surgery*, 1997; (8):13-15.
2. CT-determined intracranial volume for a normal population. Abbott A, Netherway D, Niemann D, et al. *J Craniofac Surg* 2000;11(3):211–23. PMID 11314299
3. Benign intracranial hypertension associated with arteriovenous malformation. Vorstman E, Niemann D, Molyneux AJ, et al. 2002. *Dev Med Child Neurol* 44(2):133–5. PMID 11852926
4. Embolization of spinal dural arteriovenous fistulae with Onyx. Warakaulle DR, Aviv RI, Niemann D, et al. 2003. *Neuroradiology* 45(2):110–2. Epub 2003 Jan 30 PMID 12592495
5. Treatment of intracerebral hematomas caused by aneurysm rupture: coil placement followed by clot evacuation. Niemann D, Wills A, Maartens N, et al. 2003 *J Neurosurg* 99(5):843–7. PMID 14609163
6. Anatomically conformable, three-dimensional, detachable platinum microcoil system for the treatment of intracranial aneurysms. Niemann D, Aviv R, Cowsill C, et al. 2004. *AJNR Am J Neuroradiol* 25(5):813–8. PMID 15140727
7. Cervical dural arteriovenous fistulae manifesting as subarachnoid hemorrhage: a report of two cases and literature review. Aviv R, Shad A, Tomlinson G, Niemann D, et al. 2004. *AJNR Am J Neuroradiol* 25(5):854–8. PMID 15140735
8. Transverse venous sinus stent placement as treatment for benign intracranial hypertension in a young male: case report and review of the literature. Rajpal S, Niemann D, Turk A. 2005. *J Neurosurg* 102(3 Suppl):342–6. PMID 15881764
9. Intraoperative perfusion computerized tomography scanning for management of intracranial stent placement in a patient with tandem intracranial stenoses: case report. Sanford M, Turk A, Niemann D, et al. 2005. *J Neurosurg* 102(5):918–21. PMID 15926721
10. Intracranial endovascular stent placement for symptomatic metastatic non-Hodgkin lymphoma: case report. Rajpal S, Niemann D, Aagaard-Kienitz A, et al. 2005. *J Neurosurg* 102(5):922–6. PMID 15926722
11. Assessment of Cerebral Perfusion Changes with Intracranial/Extracranial Stent Placement: Correlation with Cognitive Changes. Turk A, Niemann D, Aagaard-Kienitz, Turski P, Rowley H, Newman G: Accepted: *American Journal of Neuroradiology*, 2005.
12. Effects of carotid or vertebrobasilar stent placement on cerebral perfusion and cognition. Moftakhar R, Turk AS, Niemann, DB, et al. 2005. *AJNR Am J Neuroradiol* 26(7):1772–1780. PMID 16091529

13. Evaluation of cerebral hemodynamics with computed tomography perfusion using gadolinium as an alternative to iodinated contrast: a case study. Moftakhar R, Niemann D, Turk A, *et al.* 2006. *J Comput Assist Tomogr* 30(2):307–309. PMID 16628053
14. Utility of computed tomography perfusion in detection of cerebral vasospasm in patients with subarachnoid hemorrhage. Moftakhar R, Rowley H, Turk A, Niemann D, *et al.* 2006. *Neurosurg Focus* 21(3):E6. PMID 17029345
15. Physiologic and anatomic assessment of a canine carotid artery stenosis model utilizing phase contrast with vastly undersampled isotropic projection imaging. Turk AS, Johnson KM, Lum D, Niemann D, *et al.* 2007. *AJNR Am J Neuroradiol* 28(1):111–5. PMID 17213435
16. US multicenter experience with the wingspan stent system for the treatment of intracranial atheromatous disease: periprocedural results. Fiorella D, Levy EI, Turk AS, Albuquerque FC, Niemann DB, *et al.* 2007. *Stroke* 38(3):881–7. Epub 2007 Feb 8. PMID 17290030
17. Natural history of the canine vein pouch aneurysm model. Turk AS, Aagaard-Kienitz B, Niemann, *et al.* 2007. *AJNR Am J Neuroradiol* 28(3):531–2. PMID 17353330
18. Use of self-expanding stents in distal small cerebral vessels. Turk AS, Niemann D, Ahmed A, *et al.* *AJNR J Neuroradiol* 2007;28(3):533–6. PMID 17353331
19. Utilization of self-expanding stents in the treatment of intracranial atherosclerotic disease in the distal small cerebral vessels. Turk AS, Ahmed A, Niemann DB, Aagaard B, Brooks N, Levine R. *Neuroradiology* 2007;49(8):659–63. Epub 2007 Mar 27. PMID 17387464
20. Wingspan In-Stent Restenosis and Thrombosis: Incidence, Clinical Presentation, and Management. Levy EI, Turk AS, Albuquerque FC, Niemann DB, Aagaard-Kienitz B, Pride L, Purdy P, Welch B, Woo H, Rasmussen PA, Hopkins LN, Masaryk TJ, McDougall CG, Fiorella DJ. *Neurosurgery* 2007 Sep;61(3):644-50; discussion 650-1. PMID 17881980
21. Non-invasive measurement of intra-aneurysmal pressure and flow pattern using phase contrast vastly undersampled isotropic projection imaging. Moftakhar R, Aagaard B, Johnson K, Turski, P, Turk A, Niemann D, Consigny D, Grinde J, Wieben O, Mistretta C. *American Journal of Neuroradiology* 2007 Oct;28(9):1710-4. Epub 2007 Sep 20. PMID 17885239
22. Effect of carotid artery stenting on cognitive function in patients with carotid artery stenosis: preliminary results. Turk A, Chaudry I, Haughton V, Herman B, Rowley H, Pulfer K, Aagaard B, Niemann D, Turski P, Levine R, Strother C. *American Journal of Neuroradiology* 2008 Feb;29(2):265-8. Epub 2007 Nov 7. PMID 17989371
23. Influence of patient age and stenosis location on Wingspan in-stent restenosis. Turk A, Levy E, Albuquerque F, Pride G, Woo H, Welch B, Niemann D, Purdy P, Aagaard B, Rasmussen P, Hopkins L, Masaryk T, McDougall C, Fiorella D. *American Journal of Neuroradiology* 2008 Jan;29(1):23-7. Epub 2007 Nov 7. PMID 17989366
24. Surgical treatment of blood blister–like aneurysms of the supraclinoid internal carotid artery with extracranial–intracranial bypass and trapping Başkaya, M, Ahmed A, Ateş O, Niemann, D. *Neurosurgical FOCUS* Feb 2008; 24(2):E13. PMID: 18275289



25. The occipital artery for posterior circulation bypass: microsurgical anatomy. Ates O, Ahmed A, Niemann D, Baskaya M. *Neurosurgical FOCUS* Feb 2008;24(2):E9. PMID 18275305
26. Alternative vascular graft for extracranial–intracranial bypass surgery: descending branch of the lateral circumflex femoral artery. Baskaya M, Kiehn M, Ahmed A, Ates O, Niemann D. *Neurosurgical FOCUS* Feb 2008;24(2):E8. PMID: 18275304
27. Frequency of thromboembolic events associated with endovascular aneurysm treatment: retrospective case series. Brooks N, Turk A, Niemann D, Aagaard-Kienitz B, Pulfer K, Cook T. *Journal of Neurosurgery* June 2008, Vol. 108, No. 6: 1095-1100. PMID 18518710
28. Response to the commentary, “How do we spin Wingspan?” Levy E, Hopkins L, Turk A, Fiorella D, Rasmussen P, Masaryk T, Albuquerque F, McDougall C, Pride G, Welch B, Purdy P, Woo H, Niemann D, Aagaard B. *American Journal of Neuroradiology* 2008 Sep;29(8):e67-8; author reply e70. Epub 2008 Apr 3. PMID 18388208
29. C-arm CT measurement of cerebral blood volume: an experimental study in canines. Ahmed A, Zellerhoff M, Strother C, Pulfer K, Redel T, Deuerling-Zheng Y, Royalty K, Consigny D, Niemann D. *American Journal of Neuroradiology* 2009 May;30(5):917-22. Epub 2009 Mar 19 PMID19299488
30. Impact of Intra-arterial Injection Parameters on Arterial, Capillary and Venous time-Concentration Curves in a Canine model. Ahmed A, Duerling-Zheng Y, Strother C, Pulfer K, Zellerhoff M, Redel T, Royalty K, Consigny D, Lindstrom M, Niemann D. *American Journal of Neuroradiology* 2009 Aug;30(7):1337-41. Epub 2009 May20. PMID 19461063
31. Flexible Thin Film Electrode Arrays for Minimally-Invasive Neurological Monitoring, Kim J, Richner T, Thongpang S, Sillay K, Niemann D, Ahmed A, Krugner-Higby L, Williams J. *Conf Proc IEEE Eng Med Biol Soc* 2009:5506-9 PMID 19964122
32. The Work-horse of Skull Base Surgery: Orbitozygomatic Approach, Technique, Modifications and Applications”. Seckin H, Avci E, Uluc K, Niemann D, Baskaya M. *Neurosurgery Focus* 2008;25(6):E4 PMID 19035702
33. Angiographic patterns of Wingspan in-stent restenosis. Albuquerque F, Levy E, Turk A, Niemann D, Aagaard B, Pride G, Purdy P, Welch B, Woo H, Rasmussen P, Hopkins L, Masaryk T, McDougall C, Fiorella D. *Neurosurgery* 2008 Jul;63(1):23-7; discussion 27-8. PMID 18728565
34. Long Term Outcomes in Stenting of ICAD in Small Distal Cerebral Vessels. Ahmed A, Turk A, Niemann D, Aagaard-Kienitz B, Strother C. *American Journal of Neuroradiology*.
35. CT Angiographic Appearance of In-Stent Restenosis of Intracranial Arteries Treated with Wingspan Stent. Turk A, Rowley H, Niemann D, Fiorella D, Aagaard-Kienitz B, Pulfer K, Strother C. *American Journal of Neuroradiology* 2007 Oct;28(9):1752-4. Epub 2007 Sep 24. PMID 17893212
36. Target lesion revascularization after Wingspan: Assessment of safety and durability. Fiorella D, Levy E, Turk A, Albuquerque F, Pride G, Woo H, Welch B, Niemann D, Purdy P, Aagaard B, Rasmussen P, Hopkins L, Masaryk T, McDougall C. *Stroke* 2009 Jan;40(1):106-10. Epub 2008 Oct 16. PMID 18927447

37. C-arm CT measurement of cerebral blood volume in ischemic stroke: an experimental study in canines. Bley T, Strother C, Pulfer K, Royalty K, Zellerhoff M, Duerling-Zheng Y, Bender F, Consigny D, Yasuda R, Niemann D. *American Journal of Neuroradiology* 2010 Mar 31(3):536-40. Epub 2010 Jan 6. PMID 20053809
38. Parametric Color Coding of digital Subtraction Angiography. Strother CM, Bender F, Deuerling-Zheng Y, Royalty K, Pulfer K, Baumgart J, Zellerhoff M, Aagaard B, Niemann D, Lindstrom M. *American Journal of Neuroradiology* 2010 Feb 18 PMID 20167651
39. Effect of Carotid Artery Stenting on Cognitive Function in Patients with Carotid Artery Stenosis: One Year Outcomes, *American Journal of Neuroradiology*. 2008 Feb;29(2):265-8. Epub 2007 Nov 7.
40. Superselective Wada Test for Ruptured Spontaneous Fusiform Middle Cerebral Artery Aneurysm: A Technical Case Report. Rajpal S, Moftakhar R, Bauer AM, Turk AS, Niemann DB. *Journal of Neurointerventional Surgery* , 2011 Sep;3(3):237-41. Epub 2011 Feb 2.
41. Flexible Thin Film Electrode Arrays for Minimally-Invasive Neurological Monitoring, Kim J, Richner T, Thongpang S, Sillay K, Niemann D, Ahmed A, Krugner-Higby L, Williams J. *IEEE Eng Med Biol Soc*. 2009;2009:5506-9. PMID: 19964122
42. US Wingspan Registry: 12-Month Follow-Up Results. Fiorella DJ, Turk AS, et. al. *Stroke*. 2011 Jul;42(7):1976-81. Epub 2011 Jun 2. PMID: 21636812.
43. A Micro-Electrocorticography Platform and Deployment Strategies for Chronic BCI Applications. Thongpang et al. Accepted to the special edition of the *Journal of Clinical EEG and Neuroscience*. 2011 Oct;42(4):259-65 PMID: 22208124
44. Superselective Wada test for ruptured spontaneous fusiform middle cerebral artery aneurysm: a technical case report. Rajpal S, Moftakhar R, Bauer AM, Turk AS, Niemann DB. *J Neurointerv Surg*. 2011 Sep;3(3):237-41. Epub 2011 Feb 2. PMID:21990832
45. Bilateral A-1 fenestrations: Report of two cases and literature review. Aktüre E, Arat A, Niemann DB, Salamat MS, Başkaya MK., *Surg Neurol Int*. 2012;3:43. Epub 2012 Apr 16. PMID: 22574252 [PubMed - in process]
46. Hemodynamic Changes in Patients With Arteriovenous Malformations Assessed Using High Resolution 3D-Radial Phase Contrast Magnetic Resonance Angiography. Submitted to *American Journal of Neuroradiology*. 2012 Apr 12. [Epub ahead of print] PMID: 22499844
47. Demographic Circadian, and Climatic Factors In Aneurysmal Versus Non-Aneurysmal Subarachnoid Hemorrhage: An Analysis of 384 Cases from Midwestern US. Miranpuri A, Aktüre E, Uluç K, Güneş E, Niemann D, et al. Submitted to *Journal of Neurosurgery. Clin Neurol Neurosurg*. 2012 Jul 5. [Epub ahead of print] PMID: 22770541
48. 4D DSA: Implementation and Demonstration of Feasibility. Accepted to the *American Journal of Neuroradiology* August, 2012 AJNR-12-00973.R1
49. How reliable and accurate is indocyanine green video angiography in the evaluation of aneurysm obliteration? Ozgiray E, Aktüre E, Patel N, et al. *Clin Neurol Neurosurg*. 2012 Sep 6. [Epub ahead of print] PMID: 22959212

## Abstracts:

1. Preliminary Multicenter Experience with the Wingspan Stent System for the Treatment of of Intracranial Atheromatous Disease. Fiorella D, Levy E, Turk A, Albuquerque F, Niemann D, Aagaard-Kienitz B, Hanel R, Wood H, Rasmussen P, Hopkins L, Masaryk T, McDougall C. *ASNR 2006 Accepted Abstract*
2. Neuroform Stent Placement for Treatment of Aneurysms of Small Cerebral Vessels: Long Term Outcomes. Turk A, Niemann D, Ahmed A, Aagaard-Kienitz B. *ASNR June 2007. Abstract Accepted*
3. Impact of Injection Parameters on Arterial, Capillary and Venous Opacification in Digital Subtraction Angiography. Ahmed A, Duerling S, Strother C, Pulfer K, Zellerhoff K, Grinde J, Consigny D, Niemann D *Abstract accepted to ASNR.*
4. Correlation of CTA, Dyna CT, 3D DSA v.s. Direct Anatomic Measurement of Intracranial Vessel Caliber in Cadaveric Specimens: Ahmed A, Niemann D, Baskaya M, Pulfer K, Strother C. *Abstract accepted to ASNR.*
5. Physiologic imaging in endovascular neurosurgery: C-Arm CT measurement of Cerebral Blood Volume (CBV) and Time Resolved Digital Subtraction Angiography (DSA) with Color coding (TRACC), Academy Meeting, Sedona, AZ September 2008 *Abstract accepted.*
6. Tandem aneurysms of the internal carotid artery (ICA): a study of hemodynamics before and after aneurysm formation. Jiang J, Strother C, Arat, A, Aagaard B, Niemann D. *WFITN, Montreal, Canada Feb 2009. Abstract accepted.*
7. Functional MRA expands the characterization of AVMs by providing dynamic whole brain images, measurements of velocity, estimates of wall shear stress and pressure gradients. Bruce R, Wu Y, et. al. *ASNR 2009, Vancouver meeting. Abstract accepted.*
8. Aneurysm Ostium Angle: A Useful Predictor of the Need for Stents in Endovascular Treatment. Yasuda R, Arat A, et al. *WFITN, Montreal, Canada, February 2009. Abstract accepted.*
9. Dimensional angiograms to evaluate stenting for intracranial aneurysms. Ryuta Y, Arat A, Niemann, D, Aagaard-Kienitz B, Pulfer K, Royalty K, Strother C. *23<sup>rd</sup> Annual Scientific Congress of Turkish Neurosurgical Society. 2009, Kyrenia, Cyprus*
10. 6th nerve palsy coincident with central retinal artery occlusion. Arat YO, Levine R, Niemann D, Arat A. *45<sup>th</sup> Annual Meeting of Turkish Neurological Society. November 2009, Antalya, Turkey*
11. Flexible Thin Film Electrode Arrays for Minimally-Invasive Neurological Monitoring, Kim J, Richner T, et al. *IEEE Eng Med Biol Soc. 2009;2009:5506-9.PMID: 19964122*
12. Aneurysm Geometry: Parameters Useful in Assessing Rupture Risk. Yasuda R, Arat A, Pulfer K, Royalty K, Aagaard BK, Niemann D, Strother CM., *WFITN, Montreal, Canada February 2009. Abstract accepted*
13. Aneurysm volume-to-ostium ratio: A useful predictor of slow-flow and rupture state. Yasuda R, Arat A, Aagaard-Kienitz B, Niemann D, et al. *International Intracranial Stent Meeting August 2009, Sendai, Japan.*

14. Hemodynamics Analysis of Supraclinoid ICA Tandem Aneurysms: How does One Influence the other? Jiang JJ, Yasuda R, et al. Accepted abstract: International Stroke Conference 2009.
15. Use of 3-D Angiograms for Prediction of Coils Needed to Embolize Small Intracranial Aneurysms. Arat A, Yasuda R, Aagaard-Kienitz B, Niemann D, et al. Abstract submission to Symposium Neuroradiologicum, April 2010.
16. Tandem Aneurysms of the Supraclinoid Internal Carotid Artery: How Does One Influence the Other? Submitted to ANJR Oct., 2009
17. Quantification of Parametric Color-coded Digital Subtraction Angiography. Powers C, Aagaard-Kienitz B, et al. Submitted to ASNR for 2010.
18. Endovascular Treatment of Very Small Ruptured Intracranial Saccular Aneurysms. Powers C, Aagaard-Kienitz B, et al. Submitted abstract for ASNR 2010.
19. Identifying In-stent Stenosis of Stent-coiled Aneurysms Using MR-perfusion. Agrawal B, Niemann D, Aagaard-Kienitz B, Pulfer K, Turk A. Accepted abstract to AANS Philadelphia Meeting, May, 2010.
20. Aneurysm Volume-to-Ostium Area Ratio (VOR); A Parameter Useful in Discriminating the Rupture Status of Intracranial Aneurysms. Yasuda R, Strother C, et al. Abstract accepted as an oral presentation at The 69th Annual Meeting of the Japan Neurosurgical Society. Fukuoka, Japan. October 2010.
21. Method Of Validating Middle Cerebral Artery Occlusion Stroke Model With Digital Subtraction Angiography In Rodents, Miranpuri A, Aktüre E, Uluç K, Başkaya M, Niemann D. Accepted AANS/CNS Joint Section Meeting, February 2011.
22. Circadian And Climatic Factors In The Onset Of Aneurysmal Subarachnoid Hemorrhage Versus Non-Aneurysmal Perimesencephalic Hemorrhage, Miranpuri A, Aktüre E, Uluç K, Güneş E, Niemann D, et al. Accepted AANS/CNS Joint Section Meeting, February 2011.
23. Parametric Analysis of 2D Digital Subtraction Angiography for Pre/Post Evaluation of Vasospasm Treatment. Ng J, Royalty K, Pulfer, et al. Abstract accepted for 11<sup>th</sup> Annual WFITN Congress, Cape Town, Nov. 2011
24. Intravenous 3 Dimensional Digital Subtraction Angiography (IVDSA) for Assessment of Postoperative Intracranial Aneurysm Patients. Ng J, Royalty K, Pulfer, et al. Abstract accepted for 11<sup>th</sup> Annual WFITN Congress, Cape Town, Nov. 2011
25. Endovascular MCAO: A novel of middle cerebral artery occlusion model in rats. Aktüre E, Miranpuri A, Kujoth G, et al. Abstract accepted for 11<sup>th</sup> Annual WFITN Congress, Cape Town, Nov. 2011
26. The Woven Endobridge (WEB) Cerebral Aneurysm Device: a review of theoretical and pre-clinical studies and early clinical results. Niemann D, Consigny D, Pulfer K, Strother C. Abstract accepted for 11<sup>th</sup> Annual WFITN Congress, Cape Town, Nov. 2011
27. Neuroangiography Simulation using Silicone Models Improves Trainee Skills. Ng J, Miranpuri A, Al-Molani A, Nিকে C, et al. Abstract accepted for 11<sup>th</sup> Annual WFITN Congress, Cape Town, Nov. 2011
28. Significance of Vascular Lesion Proximity to Areas of Motor and Language Activation: Patient Outcomes and Impact on Language Lateralization. Abstract submitted and accepted to RSNA Gallagher T, Baniulis D, Kornder N, et al.

29. How might CFD predictions help: A case study of Pipeline Embolization Device in a large ICA aneurysm? Jiang J, Niemann D, et al. Accepted for presentation to ASNR 50<sup>th</sup> Annual Meeting, April 2012, New York, NY
30. 4D DSA A New Angiographic Tool for Evaluation of Cerebrovascular Abnormalities and Improved Device Visualization Using Flat Detector Angiographic Systems. Strother C, Aagaard-Kienitz B, Niemann D. Accepted for presentation to ASNR 50<sup>th</sup> Annual Meeting, April 2012, New York, NY
31. CTA is feasible in acute stroke code protocol: Sattar A, Sattin J, Chacon M, Niemann D. Abstract accepted for presentation at 1<sup>st</sup> Int'l Congress of Interventional Neurology, Minnesota, October 2012.
32. Balloon Expandable v.s. Self-Expanding Stents for Intracranial Atherosclerotic Diagnosis. Sattar A, Niemann D. Abstract accepted for presentation at Society of Vascular and Interventional Neurology Conference, Hollywood, Florida. October, 2012
33. Simulation Based Training in Endovascular Neurosurgery. Miranpuri A, Nickele C, Jg J, Niemann D. Accepted for presentation to RSNA 2012 Annual Meeting, November 2012, Chicago, IL

#### **Publications Under Review:**

1. Experience with Alternative Treatment for Intracranial atherosclerosis – Balloon Expandable and Self-Expanding Stents. Niemann D, Turk A, Ahmed A, Pulfer K, Aagaard-Kienitz B: Submitted to *AJNR*, resubmitted to *Journal of Neurosurgery*
2. Use of the Duett femoral arteriotomy closure device in neuroendovascular procedures. Accepted, Paper: *American Journal of Neuroradiology*
3. Wingspan In Stent Re-Stenosis: Angiographic Appearance of Wingspan In Stent Re-Stenosis . Albuquerque F., Turk A. Levy E, Niemann D, Aagaard-Kienitz B, Pride L, Purdy P, Welch B, Woo H, Rasmussen P, Hopkins LN, Masaryk T, McDougall C, Fiorella D. Submitted to *Neurosurgery 2010*
4. Significance of Vascular Lesion Proximity to Areas of Motor and Language Activation: Patient Outcomes and Impact on Language Lateralization. Abstract submitted to RSNA 2011.
5. Neuroangiography Simulation Using Silicone Model in angiography Improves Trainee Skills. Miranpuri A, Nickele C, Ng J, Akture E, Niemann D. Submitted to *JNIS*. 2012

#### **RESEARCH/CLINICAL TRIALS/GRANTS SUPPORT AWARDED AND CONTINUED**

##### **Active**

1. Active animal protocol: Endovascular Delivery of Factors and Evaluation of Neuroprotective Benefit in a Focal Ischemic Model.
2. IRB-Approved Physiologic and anatomic assessment of the carotid artery with Phase Contrast Vastly Undersampled Isotropic Projection Imaging (PC-VPR)
3. IRB Approved Capture 2 Trial, UW Office of Clinical Trials
4. PI: IRB accepted MRI perfusion after stenting and coiling.

5. Co-PI: National Clinical Registry for Cerecyte Coil – Micrus Corp. Research agreement awarded \$110,000, 2005-.
6. Co-investigator/Research SIEMENS: Awarded and continued \$102,515
  - i. Dyna CT angiography via an intravenous contrast injection (IVDSA). Ongoing after clipping of aneurysms
  - ii. I-flow color coded angio in treatment of vasospasm.
  - iii. Ongoing IV-DISA in Analysis of Aneurysms Post Clipping.
7. Contributor: Cerebrovascular first pass HYPR flow: CE-MRA with a phase contrast constraint/AVM \$275,000
8. Active animal protocol: Treatment of aneurysms using new technology and devices
9. Active animal protocol: Training of physicians using Onyx and other devices
10. Co-I: Chestnut Medical Technologies: IRB Approved COCOA Study - Pipeline for aneurysm therapy 2009 – 2033
11. Co-I: Micrus Corp: IRB Approved VISIT Study – Balloon Expandable Stent for Atherosclerosis 2010 – 2033
12. Co-PI: Sequent: Evaluation of the Woven Endobridge (WEB) device for aneurysm treatment. \$58,431.52 awarded amount.
13. Co-PI: BHR Pharma, LLC: A Randomized, Double-Blind, Placebo-Controlled Phase 3 Study to Investigate the Efficacy and Safety of Progesterone in Patients with Severe Traumatic Brain Injury. 2010 –
13. Co-PI: Sequent: Evaluation of Coils v.s. (WEB) in canine models. (\$60,000.)
14. Co-PI: Incorporation of Siemen’s 3D angio and Dyna CT into stealth w/Medtronic.
15. Grant from United Biologics to develop endovascular simulator program with models. \$15,000 2011

**Pending:**

1. Co-PI: KL2 Computational Fluid Dynamics Aneurysm Characteristics application
2. Collaborator: “Brain protection and repair following stroke” Dempsey Submitted NIH grant June 2010.
3. Niemann PI: New Aneurysm Bridging Stent and Vascular Occlusion Device. Reverse Medical, \$120,000
4. Co-PI: Development of stealth guidance with Siemen’s angio imaging: Medtronic and Siemens.

**Prior:**

1. IRB-Approved CEASE (Duett closure device) Trial
2. IRB-Approved Self-Expanding Stents in Distal Small Cerebral Vessels
3. IRB approved SAMPRIS Trial for intracranial stenting
4. GE collaborative study on aneurysm coil susceptibility with ultra short TE. Niemann, Hinks, Rowley, Pulfer
5. PI: Enterprise Stent: IRB
6. PI: Onyx 500: IRB
7. PI: Wingspan Registry. Research awarded \$80,000.
8. IRB Approved Wingspan Stent Humanitarian Use Device
9. IRB Approved Neuroform Stent Humanitarian Use Device
10. IRB Approved Matrix Trial (MAPS) Humanitarian Use Device

11. Co-PI: Boston Scientific: Evaluation of the effect of endovascular stimulation of brain structures on a primate model with PET imaging \$150,730.00 with IRB approval
12. General Electric Healthcare in Ischemic Stroke Stent cognition project \$113,000.00 with IRB approval
13. Co-PI: Biomerix Aneurysm Coils Study-Pre clinical \$730,095.51 with IRB approval
14. PI: eV3 Nexus Registry 9,166.65 with IRB approval
15. PI: eV3 Nexus Coils Pre-Clinical Animal Study \$125,275.50 with IRB approval
16. PI: Cerecyte Coil Trial \$2,509.20 with IRB approval
17. PI: eV3 Racer Axium Coil Trial 2009- with IRB approval
18. IRB Approved PRET II – Hydrogel for recurrent aneurysms (Microvention Corp.)
19. IRB MR Rescue – MERCI +/- Penumbra for stroke with Dr. Justin Sattin of UW-Neurology
20. PI: IRB accepted MRI perfusion after stenting and coiling
21. Co-investigator/Research SIEMENS: Three dimensional imaging of brain tumors and vascular malformations using
22. Contributor: Coulter Award: Thin-Film Micro-Electrode Arrays for Minimally Invasive Neurological Monitoring – patent submitted. \$54,000
23. PI: IRB Approved CHOICE Study – Carotid study, PI for neurosurgery in conjunction with vascular and cardiology (Guidant Corp.)
24. PI: IRB Approved Pneumbra Imaging Collaborative Study “START” trial. 2010 – 2033 Awarded \$9,789.00
25. PI: Correlation of I-Flow Angio with Intraoperative Flow Measurements in Aneurysm Surgery.
26. CO-PI: IV-DSA in Analysis of Aneurysms Post Clipping.
27. PI: MicroTherapeutics Inc.: MTI Registry Agreement 2005-2019