

## **Curriculum Vitae**

**Babu G. Welch, MD**

**Office Address:** 5323 Harry Hines Blvd, Dallas, TX 75390-8855

**Work Phone:** 214-648-8779

**Work Fax:** 214-648-2265

**Work E-Mail:** babu.welch@utsouthwestern.edu

**Place of Birth:** Washington, DC

### **Education**

Year	Degree (Honors)	Field of Study (Thesis advisor for PhDs)	Institution
1993	B.S.	Biology	Morehouse College
1993	B.A.	Spanish	Morehouse College

### **Postdoctoral Training** *(Include residency/fellowship)*

Year(s)	Titles	Specialty/Discipline	Institution
2004-2006	Fellowship	Cerebrovascular & Endovascular Neurosurgery	UT Southwestern Medical Center
1999-2004	Residency	Neurological Surgery	George Washington University Medical Center
1998-1999	Residency	General Surgery	Washington Hospital Center
1997-1998	Internship	General Surgery (Preliminary)	Howard University Hospital
1993-1997	M.D.	Doctor of Medicine	Howard University College of Medicine

### **Faculty Academic Appointments**

Year(s)	Academic Title	Department	Academic Institution
1/2017-Present	Professor	Departments of Neurological Surgery & Radiology	UT Southwestern Medical Center
9/2011-12/2016	Associate Professor	Departments of Neurological Surgery & Radiology	UT Southwestern Medical Center
2006-Present	Associate Professor	Departments of Neurological Surgery & Radiology	Parkland Memorial Hospital (Dallas, TX)

### **Current Licensure and Certification**

Licensure: Texas Medical License

Board and Other Certification:

American Board of Neurological Surgery

06/2010

Advanced Cardiac Life Support

09/2018

**Honors and Awards**

Year	Name of Honor/Award	Awarding Organization
2016	Cerebrovascular Research Award - AVM Project	Joe Niekro Foundation & Society of Neurointerventional Surgery
2016	CNS Research Award	Congress of Neurological Surgery
2015	Duke Samson Chair of Neurological Surgery	UT Southwestern Medical Center
2001	Wolfgang Koos George Washington Neurosurgical Residents Award (First Recipient)	George Washington University Department of Neurosurgery
1999	The "Joey Award" for Enthusiasm & Excellence in Vascular Surgery	Washington Hospital Center Department of Vascular Surgery
1997	Elected Graduation Speaker	Howard University College of Medicine
1997	"Pioneer Award" for Outstanding Leadership	Howard University Medical Alumni Association
1996	"Odeku-Green-Barber Award" for Excellence in Neurosurgery	Howard University College of Medicine
1995	Mitchell-Kiernan Surgical Fellowship	Howard University College of Medicine
1990-1991	Charles E. Merrill Scholarship for Overseas Study (Madrid, Spain)	Morehouse College

**Appointments at Hospitals/Affiliated Institutions**

<u>Past</u>			
Year(s)	Position Title	Department/Division	Institution
09/2011-2017	Associate Professor	Neurological Surgery & Radiology	UT Southwestern Medical Center
10/2006-9/2011	Assistant Professor	Neurological Surgery & Radiology	UT Southwestern Medical Center
<u>Current</u>			
Year(s)	Position Title	Department/Division	Institution
09/2017-Present	Professor	Neurological Surgery & Radiology	UT Southwestern Medical Center

### Other Professional Positions

Year(s)	Position Title	Institution
2014-Present	Consultant	Medtronic, Inc.
2011-Present	Consultant, Speaker Bureau	Stryker Neurovascular

### Major Administrative/Leadership Positions

Year(s)	Position Title	Institution
2006-Present	Director, Ambulatory Neurosurgery Clinic	UT Southwestern Medical Center
2017-Present	Co-Director, Robert D. Rogers Comprehensive Stroke Center	UT Southwestern Medical Center
2017-Present	Member, Executive Committee of Medical Group Faculty Board	UT Southwestern Medical Center
2015-Present	Medical Executive Committee	UT Southwestern Medical Center
2014-Present	Director, Clark-Samson Bioskills Laboratory	UT Southwestern Medical Center
2013-Present	Director, Cerebrovascular Fellowship	UT Southwestern Medical Center
2010-Present	Director, Paul M. Bass Center for Neurosurgical Innovation	UT Southwestern Medical Center

### Committee Service

Year(s)	Name of Committee	Institution/Organization
<u>UTSW</u>		
2016-Present	Hospital Expansion and Construction Committee	UT Southwestern Medical Center
2015	President's Committee on Clinical Excellence	UT Southwestern Medical Center
2015-Present	Ambulatory Services Advisory Committee	UT Southwestern Medical Center
2014-2016	Six Year Planning Committee	UT Southwestern Medical Center
2014-Present	Committee on Telehealth Initiatives	UT Southwestern Medical Center
2007-2011	Committee on Carotid Quality Assurance	UT Southwestern Medical Center
<u>National/International</u>		
2015-Present	Education Committee	Congress of Neurological Surgeons (CNS)
2018	Chair-Elect	CNS/AANS Cerebrovascular Section
2013-2016	Elected Member of Nominating Committee	CNS/AANS Cerebrovascular Section
2013-2017	Chair-Website Committee	CNS/AANS Cerebrovascular Section
2012-2014	Rapid Review Committee	CNS/AANS Cerebrovascular Section
2010	Annual Meeting Scientific Program Committee	CNS/AANS Cerebrovascular Section

### Professional Societies

Dates	Society Name, member
2006-Present	<b>AANS/CNS Cerebrovascular Section</b>
2006-Present	<b>AANS (American Association of Neurological Surgeons); Public Education Committee</b>
2006-Present	<b>CNS (Congress of Neurological Surgeons); Education Committee</b>
2006-Present	<b>AHA/ASA (American Heart Association/American Stroke Association)</b>

2006-Present	<b>ABNS (American Board of Neurological Surgery)</b>
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**Fellowships & Additional Training**

06/2017	<b>American Association of Medical Colleges Faculty Retreat</b>
07/2014	<b>Pardee Rand Graduate Summer Faculty Workshop on Policy</b>
2006-2011	<b>Course Director, Approaches to Cranial Neurosurgery: A Case Based Approach</b> Medtronic Midas Rex Education Center
09/2006	<b>Töolo Hospital (Helsinki, Finland)</b> Traveling Fellowship with Dr. Juha Hernesniemi
09/2005	<b>Utrecht University Medical Center, Netherlands</b> Invited Participant in the use of Excimer Laser Assisted Non-Occlusive
03/2002	<b>Neurosurgical Leadership Development Conference</b> Washington, DC; Participant
10/1996	<b>Janice E. Douglas-David S. Satcher Clinical Clerkship</b> The Case Western Reserve Medical Center, Dept. of Neurosurgery

**Grant Support & Review Activities**

Year(s)	Name of Review Committee	Organization
2016-Present	Magnetic Resonance Imaging in Intracranial Arterial (R21 NS095342-01A1)	UT Southwestern Medical Center Johns Hopkins University
2016-Present	St. Paul Medical Foundation – Imaging of Intracranial Stenosis	UT Southwestern Medical Center
2014-2015	Masters Project Supervisor	The Royal College of Surgeons of Edinburgh
2014	Committee on Biomedical Innovation	UT Southwestern Medical Center

**Editorial Activities**

Year(s)	Journal Name
<u>Associate Editor</u>	Neurosurgery
<u>Associate Editor</u>	Operative Neurosurgery and Compendiums
<u>Reviewer</u>	Journal of Neurointerventional Surgery
Ad Hoc Reviewer	Journal of Neurosurgery, Neurology, and Psychiatry
Ad Hoc Reviewer	Cerebrovascular Disease

**Invited Lectures**

Year(s)	Title	Location
<u>International</u>		
2017	<b>“Modern Management of Ophthalmic Aneurysms”</b> European Association of Neurological Surgery (EANS)	Venice, Italy
2017	<b>MRI for the Neurosurgeon – Special Techniques</b> EANS Cerebrovascular Section Meeting	Nice, France

2016	<b>Modern Cerebrovascular Neurosurgery – Nuances of the Hybrid Operating Theater</b> Annual Meeting of the European Association of Neurological Surgery	Athens, Greece
2016	<b>The Role of the Neurosurgeon in Stroke Care</b> Visiting Professor – University of Calgary	Alberta, Canada
2011	<b>“The Modern Cerebrovascular Surgeon”</b> 3 <sup>RD</sup> New Era International Multidisciplinary Sharing Meeting	Zhengzhou & Nanchang, China
2011	<b>Curso de Microcirugía Bypass Extra-Intracranial</b> Instructor, Hospital ‘La Paz’	Madrid, Spain
<u>National</u>		
2018	<b>Endovascular Management of AVMs in Pregnancy</b> International Stroke Conference	Los Angeles, CA
2017	<b>“NOACs in Subarachnoid Hemorrhage”</b> Charleston Summit 2017	Charleston, SC
2017	<b>“Modern Cerebrovascular Surgery: They Hybrid Approach to the Diseases We Own”</b> Visiting Professor Lecture Series-West Virginia University	Morgantown, WV
2016	<b>“Multimodality Management of Dural Arteriovenous Fistulae”</b> International Stroke Conference	Los Angeles, CA
2014	<b>“Surgical Management of Posterior Circulation Aneurysms”</b> AANS Annual Meeting	San Francisco, CA
2014	<b>“Comprehensive Stroke Center Core Requirements – Neurosurgery”</b> Society of Vascular Interventional Neurology (SVIN) Annual Meeting	Houston, TX
2013	<b>“Multidisciplinary Treatment of Acute Stroke”</b> National Medical Association (NMA) Annual Meeting	Toronto, CA
2012	<b>“Embolization for Radiosurgery-A Useful Tool”</b> AANS/CNS Cerebrovascular Section Annual Meeting	New Orleans, LA
2012	<b>“Emergency Reversal of Coagulopathy and Platelet Dysfunction in Neurosurgical Patients”</b> AANS/CNS Cerebrovascular Section Annual Meeting	Denver, CO
2011	<b>“Endovascular Management of Ischemic Disease”</b> Annual Meeting of The National Medical Association	Washington, DC
2011	<b>“Technical Aspects of AVM Embolization For Radiosurgery”</b> Annual Meeting of The Society of Neurointerventional Surgery (SNIS)	Colorado Springs, CO
2010	<b>“The Modern Cerebrovascular Surgeon: Which Skill Do I Use Now”</b> Arkansas Neurological Institute	Little Rock, AR
<u>Regional/Local</u>		
2015	<b>“Update on Management of Acute Stroke”</b> Care Flight Regional Conference	Arlington, TX
2014	<b>“Innovation in Neurosurgery”</b> Wilson Surgical Society Lecture	Dallas, TX
2014	<b>“The Dilemma of Dual Training”</b> Texas Association of Neurological Surgery (TANS)	Austin, TX
2014	<b>“Update on Stroke Management”</b> Texas Health Resources Regional Meeting	Dallas, TX

2014	<b>“Neurosurgical Contributions to Stroke”</b> Medical Center of Lewisville	Lewisville, TX
2013	<b>“Cerebral Bypass Techniques and Indications”</b> American Association of Professional Coders	Dallas, TX
2012	<b>“Innovation in Neurosurgery”</b> Bass Neurosurgery Symposium, UT Southwestern Medical Center	Dallas, TX
2011	<b>“Platelet Aggregation: The UT Southwestern Experience” (Oral)</b> Grand Rounds (Department of Neurology) UT Southwestern Medical Center	Dallas, TX
2010	<b>“Surgical and Endovascular Management of Stroke” (Oral)</b> UT Southwestern Stroke Symposium for EMS Practitioners	Dallas, TX
2010	<b>“Surgical Management of Previously Stented Aneurysms” (Oral)</b> AANS/CNS Cerebrovascular Section Annual Meeting	San Antonio, TX
2010	<b>“Evaluation of Incidence of Thromboembolic Complications in inadequate Antiplatelet Responders Undergoing Elective Endovascular Stenting” (Poster)</b> American Heart Association-International Stroke Conference	San Antonio, TX

### Service to the Community

Year(s)	Role	Organization or institution
2018-Present	Young Men’s Leadership Academy of Fort Worth, TX	Sigma Pi Phi Fraternity (Epsilon Pi Chapter)
2012-Present	Educational Foundation Support and Administration	Sigma Pi Phi Fraternity (Delta Mu Chapter)

### Bibliography

#### Peer-Reviewed Publications

#### Original Research Articles

1.	Mokin M, Chinae A, Primiani CT, Ren Z, Kan P, Srinivasan V, Hanel R, Aguilar-Salinas P, Turk A, Turner R, Chaudry M, Ringer A, <b>Welch BG</b> , Treatment of Blood Blister Aneurysms of the Internal Carotid Artery with Flow Diversion. <i>J NeuroIntervent Surg</i> 2018; 0:1-5, doi:10.1136/neurintsurg-2017-013701
2.	Ding C, Hrycushko B, Whitworth L, Li X, Nedzi L, Weprin B, Abdulrahman R, <b>Welch BG</b> , et.al. Multistage Stereotactic Radiosurgery for Large Cerebral Arteriovenous Malformations Using the Gamma Knife Platform. <i>Medical Physics</i> , 6 Jul 2017, doi:10.1002/mp.12455, Article ID 14394928
3.	Beecher J, Lyon K, Ban V, Vance A, McDougall C, Whitworth L, White J, Samson D, Batjer H, <b>Welch BG</b> . Delayed Treatment of Ruptured Brain AVMs: Is It Ok To Wait? <i>JNS</i> 16-745, Jun 2017
4.	Aoun SG, White J, <b>Welch BG</b> , Batjer HH. Neurosurgical Training: A Process, Not An Event. <i>World Neurosurgery</i> , May 2017
5.	Rogers M, Stutzman S, Atem F, Folefac D, Sengupta S, <b>Welch BG</b> , Olson DM. Intracranial Pressure Values Are Highly Variable After Cerebral Spinal Fluid Drainage. <i>Journal of Neuroscience Nursing</i> , Apr 2017, Volume 49, Issue 2, 85-89, doi:10.1097/JNN.0000000000000257
6.	<b>Welch BG</b> , Management of Patients on Non–Vitamin K Antagonist Oral Anticoagulants in the Acute Care and Perioperative Setting: A Scientific Statement From the American Heart Association - CIR.0000000000000477.full. February 2017
7.	<b>Welch BG</b> , Batjer HH. The Consideration of Flow Diversion in Modern Cerebrovascular Neurosurgery. <i>JAMA Neurol</i> . 2016; 73(8):921-922, doi:10.1001/jamaneurol.2016.0937

8.	Su P, Mao D, Liu P, Li Y, Pinho M, <b>Welch BG</b> , Lu H. Multi-Parametric Estimation of Brain Hemodynamics with MR Fingerprinting ASL, Magnetic Resonance in Medicine. 26 Dec 2016, doi:10.1002/mrm.26587
9.	Batjer HH, <b>Welch BG</b> . Respecting the Clinoid: An Application of Preoperative Computed Tomography Angiography. <i>WNEU</i> 2015;83(6):1022-1023, doi:10.1016/j.wneu.2015.01.032
10.	Kaufman R.M., Djulbegovic B., Gernsheimer T., et al. Platelet Transfusion: A Clinical Practice Guideline From the AABB. <i>An Intern Med.</i> , 2015;162 (3):205-213, doi:10.7326/M14-1589
11.	<b>Welch BG</b> . Clipping of Ipsilateral Posterior Communicating and Superior Cerebellar Artery Aneurysms. <i>Neurosurg Focus.</i> 2015;38(VideoSuppl1):Video4, doi:10.3171/2015.V1.FOCUS14533
12.	<b>Welch BG</b> , Batjer HH. Distal Aneurysms of the Posterior Inferior Cerebellar Artery: The Rare Surgical Lesion. <i>WNEU.</i> 2015;83(4):466-467, doi:10.1016/j.wneu.2014.08.035
13.	O'Reilly E.B., Barnett S., Madden C., <b>Welch B.G.</b> , Mickey B., Rozen S., Computed-Tomography Modeled Polyetheretherketone (PEEK) Implants in Revision Cranioplasty. <i>J Plast Reconstr Aesthet Surg.</i> November 2014, doi:10.1016/j.bjps.2014.11.001
14.	Flores B. C., <b>Welch B. G.</b> , Rickert K. L., Novakovic R. L., Pride G. L., White J. A., et al. (2014). Is the Neurointerventional Surgery Crisis a Matter of Overpopulation or Under Regulation? <i>Wneu</i> , doi:10.1016/j.wneu.2014.03.041
15.	Kim Y. W., Zipfel G. J., Ogilvy C. S., Pricola K. L., <b>Welch B. G.</b> , Shakir N., et al. (2014). Preconditioning Effect on Cerebral Vasospasm in Patients with Aneurysmal Subarachnoid Hemorrhage. <i>Neurosurgery</i> , 74(4), 351–359, doi:10.1227/NEU.0000000000000282
17.	Ray B., Rickert K. L., <b>Welch B. G.</b> , White J. A., Klinger D. R., Boudreaux B. P., et al. (2013). Development of Contrast-Induced Nephropathy in Subarachnoid Hemorrhage: A Single Center Perspective. <i>Neurocritical Care</i> , 19(2), 150–156, doi:10.1007/s12028-013-9850-1
18.	Samson D. S. & <b>Welch B. G.</b> (2013). Editorial: Arteriovenous Malformation and Embolization. <i>Journal of Neurosurgery</i> , 118(5), 967–8– discussion 968, doi:10.3171/2012.4.JNS112261
19.	Eddleman C.S., <b>Welch B.G.</b> , Vance A.Z., et al. “Endovascular Coils: Properties, Technical Complications and Salvage techniques” <i>J Neurointerv Surg</i> 2012, doi:10.1136/Neurintsurg-2012-010263
20.	Ringer A. J., Khalessi A. A., Mocco J., Boulos A., <b>Welch B.G.</b> , Siddiqui, A. H., et al. (2012). Intervention for Intracranial Atherosclerosis After SAMMPRIS. <i>Wneu</i> , 78(5), 409–412, doi:10.1016/j.wneu.2012.07.009
21.	Kan P., Siddiqui A. H., Veznedaroglu E., Liebman K. M., Binning M. J., Dumont T. M., Ogilvy C. S., Gaughen J. R., Mocco J., Velat G. J., Ringer A. J., <b>Welch B. G.</b> , Horowitz M. B., Snyder K. V., Hopkins L. N. & Levy E. I. (2012b). Early Postmarket Results After Treatment of Intracranial Aneurysms with the Pipeline Embolization Device: A U.S. Multicenter Experience. <i>Neurosurgery</i> , doi:10.1227/NEU.0b013e31827060d9
22.	Fargen K. M., Hoh B. L., <b>Welch B.G.</b> , Pride, G.L., Lanzino G., Boulos A. S., et al. (2012). Long-term Results of Enterprise Stent-Assisted Coiling of Cerebral Aneurysms. <i>Neurosurgery</i> , doi:10.1227/NEU.0b013e3182571953
23.	Markham J.C., Eddleman C.S., Uhrbrock D., <b>Welch B.G.</b> , “Bending the Curve: Preoperative Determination of Bypass Graft Length and Trajectory Using Curved---Planar Reformatted CT Angiography: Technical Note” <i>Neurosurgery</i> 19 August 2011, doi:10.1227/NEU.0b013e318232e119
24.	Fleming J.B., Hoh B.L., Simon S.D., <b>Welch B.G.</b> , et al. “Rebleeding Risk After Treatment of Ruptured Intracranial Aneurysms. Clinical article” <i>J Neurosurgeon</i> 2011; 114(6):1778-1784
25.	Fiorella D.J., TurkA.S., Levy E.L., Pride G.L., Woo H.H., Albuquerque F.C., <b>Welch B.G.</b> , Niemann D.B., Aagaard, Kienitz B., Rasmussen P.A., Hopkins L.N., Masaryk T.J., McDougall C.G., “US Wingspan Registry: 12-Month Follow-Up Results”. Accepted for publication in <i>Stroke</i> on February 16, 2011
26.	Rickert K.L., Purdy P.A., <b>Welch B.G.</b> , (2011) “Mechanical and Chemical Thrombolysis of Cerebral Sinus Thrombosis: An evolution of Technique” <i>J Neurosurg</i> , 114(1), 136-139, doi:10.3171/2010.2.JNS09685
27.	Hauck E.F., <b>Welch B.G.</b> , White J.A., Replogle R.E., Purdy P.D., Pride G.L., Samson D., (2009). Stent/Coil Treatment of Very Large and Giant Unruptured Ophthalmic and Cavernous Aneurysms. <i>Surgical Neurology</i> , 71(1), 19–24; doi:10.1016/j.surneu.2008.01.025
28.	Pride G.L., <b>Welch B.G.</b> , Novakovic R., et al. “Retrograde Crossing Stent Placement Strategies at the Basilar Apex for the Treatment of Wide-necked Aneurysms: Reconstructive and Deconstructive Opportunities.” <i>J NeuroIntervent Surg</i> 009;1:132-135
29.	Yu W., Rives J., <b>Welch B.G.</b> , White J.A., Stehel E., & Samson D. (2009). Hypoplasia or Occlusion of the Ipsilateral Cranial Venous Drainage is Associated with Early Fatal Edema of Middle Cerebral Artery Infarction. <i>Stroke</i> , 40(12), 3736-3739, doi:10.1161/STROKEAHA.109.563080

30.	Fiorella D.J., Levy E.I, Turk A.S. Albuquerque F. C. Pride G.L., Woo H.H., <b>Welch BG</b> (2009). Target Lesion Revascularization after Wingspan: Assessment of Safety and Durability. <i>Stroke; a Journal of Cerebral Circulation</i> , 40(1), 106–110
31.	Yu W, Rives J, <b>Welch B.G.</b> , White J.A., Samson D.S., “Ipsilateral Cerebral Venous Outflow Obstruction Is Associated with Life-Threatening Brain Edema of Middle Cerebral Artery Infarction” <i>Neurology</i> 2009; 72 (Suppl 3):A69
32.	Hauck E.F., Wohlfeld B., <b>Welch B.G.</b> , White J.A., Samson D.S. “Clipping of very Large or Giant Unruptured Intracranial Aneurysms in the Anterior Circulation: An Outcome Study. <i>J Neurosurg</i> 2009; 109(6):1012---1018
33.	Hauck E.F., <b>Welch B.G.</b> , White J.A., Purdy P.A., Pride G.L., Samson D., “Preoperative Embolization of Cerebral Arteriovenous Malformations with Onyx”. <i>AJNR Dec 2008</i>
34.	(null), Hopkins L. N., (null), (null), (null), (null), et al. (2008). Response to the commentary “How do we spin Wingspan?” <i>American Journal of Neuroradiology</i> , 29(8), e67–8; author reply e70, doi:10.3174/ajnr.A1081
35.	Albuquerque F.C., Levy E.I., Turk A.S., Niemann D.B., Aagaard--Kienitz B, Pride G.L., Purdy P.D., <b>Welch B.G.</b> , et al. “Angiographic Patterns of Wingspan In-Stent Restenosis”. <i>Neurosurgery</i> 2008; 63(1):23-28
36.	Levy E.I., Turk A.S., Albuquerque F.C., Niemann D.B., Aagaard-Kienitz B., Pride G.L., Purdy P., <b>Welch B.G.</b> , Woo H., Rasmussen P.A., Hopkins L.N., Masaryk T.J., McDougall C.G. & Fiorella D.J. (2007a). Wingspan In-Stent Restenosis And Thrombosis. <i>Neurosurgery</i> , 61(3), 644–651; discussion 650-1, doi:10.1227/01.NEU.0000290914.24976.83
37.	Dennis G.C., <b>Welch B.G.</b> , “Use of Computed Tomography to Predict Delayed Cerebral Ischemia in a Hypertensive Patient Population Following Aneurysmal Subarachnoid Hemorrhage”.
38.	Dennis G.C., <b>Welch B.G.</b> , Cole A.N., et al. “Subarachnoid Hemorrhage in the African-American Population: A Cooperative Study” <i>J Nat Med Assoc.</i> 1997; 89(2): 101-108

### **Reviews, Chapters, Monographs and Editorials**

1.	<b>Welch B.G.</b> , Sillero R, White JA, Batjer HH. “Technical Principles of Aneurysm Clipping” In: Ringer A ed., <u>Intracranial Aneurysms</u> , First Edition, Elsevier, 2018: pp. 208 – 231.
2.	<b>Welch B.G.</b> , Mehta N. “Guide Catheter Access: Basics and Solutions to Difficulty Anatomy” In: Ringer A ed., <u>Intracranial Aneurysms</u> , First Edition, Elsevier, 2018: pp. 320 – 327.
3.	Beecher J., <b>Welch B.G.</b> , “Surgical and Endovascular Management of Patients with Giant Cerebral Aneurysms” In: Caplan L.R., Biller J., Leary M.C., Lo E.H., Thomas A.J., Yenari M., and Zhang J.H., eds., <u>Primer on Cerebrovascular Diseases</u> , Second Edition, San Diego: Academic Press, 2017: pp. 818-823
4.	Batjer H.H., <b>Welch B.G.</b> , Respecting the Clinoid: An Application of Preoperative Computed Tomography Angiography. <i>WNEU</i> . 2015; 83(6):1022-1023.doi:10.1016/j.wneu.2015.01.032
5.	<b>Welch B.G.</b> , King D., Extracranial Spontaneous Dissections. In: Harbaugh RE, ed. <i>Theime</i> ; 2015:137-141
6.	<b>Welch B.G.</b> , Batjer H.H., Distal Aneurysms of the Posterior Inferior Cerebellar Artery: The Rare Surgical Lesion. <i>WNEU</i> . 2015; 83(4):466-467, doi:10.1016/j.wneu.2014.08.035
7.	El Tecle N.E., Bendok B.R., El Ahmadi T.Y., Zammar S.G., Yip B., <b>Welch B</b> , White J., Samson D., Batjer H.H.: Surgical Approaches and Nuances for Arteriovenous Malformations in the Posterior Fossa 01/2015: pages 130-143
8.	<b>Welch B.G.</b> , Batjer H.H., Cavernous Carotid Aneurysms: You Can But Should You? <i>WNEU</i> . 2014; 82(6):996-997, doi:10.1016/j.wneu.2014.06.029
9.	Shang T, <b>Welch B.G.</b> , Pinho M. Letter by Shang et al Regarding Article, "High-Resolution Magnetic Resonance Wall Imaging Findings of Moyamoya Disease". <i>Stroke</i> . 2014; 45(12):e299-e299
10.	Flores B.C., Klinger D.R., Rickert K.L., et al. Management of Intracranial Aneurysms Associated with Arteriovenous Malformations. <i>Neurosurg Focus</i> . 2014; 37(3):E11, doi:10.3171/2014.6.FOCUS14165
11.	Vance A.Z., <b>Welch B.G.</b> (2014). The Utility of Bioactive Coils in the Embolization of Aneurysms. <i>Neurological Research</i> , 36(4), 356–362, doi:10.1179/1743132814Y.0000000320
12.	<b>Welch B.G.</b> , Eddleman C.S. “Endovascular Management of Carotid and Vertebral Artery Aneurysms and Dissections” in Nader R (ed): <i>Neurosurgery Tricks of the Trade (Cranial) 1 ed Thieme 2013, pgs 489-495</i>
13.	<b>Welch B.G.</b> , Pride G.L., “Endovascular Management of Dural Arteriovenous Fistulae” in Lanzer P (ed): <i>Catheter-Based Cardiovascular Intervention: Knowledge-based Approach” 1 ed Springer 2013, pgs 799-807</i>
14.	<b>Welch B.G.</b> , Samson D.S., “Fusiform Intracranial Aneurysms: Management Strategies” in Abdulrauf SI (ed): <i>Revascularization: Techniques in Extracranial-to-Intracranial Bypass Surgery 1 ed Elsevier 2011 pgs. 333-349</i>
15.	White J.A., Samson D.S., <b>Welch B.G.</b> , Arteriovenous Malformations of the Posterior Fossa”, in Macdonald RL (ed): <i>Vascular Neurosurgery, Neurosurgical Operative Atlas 2 ed, Thieme 2009</i>

### **Clinical Practice Guidelines**

1.	Writing Group Member: Platelet Transfusion Guidelines (American Association of Blood Banking) 2014
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**Non-peer reviewed scientific or medical publications/materials in print or other media**

1.	<b>Welch BG</b> , Liu P, King D, Li Y, Pinho M, Lu H. MRI Assessment of Cerebrovascular Reserve Capacity in Moyamoya Patients Under Hypercapnia and Hyperoxia Challenges. In: Proceedings of AANS 83 <sup>rd</sup> Annual Scientific Meeting; Washington, D.C., USA. 2015. AA-30677
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