

CURRICULUM VITAE

ISSAM A. AWAD

BSc, MSc, MD, DABNS, FACS, FICS, FAHA, MA (Hon)

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UNDERGRADUATE EDUCATION

Loma Linda University, College of Arts and Sciences
 Riverside, California
 Degree: **Bachelor of Science**, June 1976
 Major: Biochemistry
 Distinction: Highest Honors (Summa Cum Laude)

GRADUATE EDUCATION

Loma Linda University, Graduate School, Loma Linda, California
 Degree: **Master of Science**, June 1979
 Major: Biochemistry
 Distinction: High Honors (Magna Cum Laude)
 Research: Physical Biochemistry, protein-phospholipid interactions in blood coagulation.

MEDICAL EDUCATION

Loma Linda University, School of Medicine, Loma Linda, California
Doctor of Medicine, June 1980
 Rank in Graduating Class: First
 National Board of Medical Examiners Scores: Part I-740 (99th percentile);
 Part II - 725 (99th percentile); Part III - 675 (97th percentile).

Special Honors

Alumni Association "Student Investigator of the Year Award", February 1979
 Donald E. Griggs Medical Scholarship Award, June 1980
 Alpha Omega Alpha Honor Medical Society, Elected June 1980

Extracurricular Activities

American Medical Association Western Student Medical Research Forum
 School Representative 1978; Chairman 1979; Senior Advisor 1980.
 Instructor of Biochemistry, Graduate School and School of Allied Health
 Professions, 1979-1980.

POSTGRADUATE MEDICAL EDUCATION

Loma Linda University Medical Center, Loma Linda, California
Rotating Surgical Internship (PGY 1), July 1980 - June 1981.

Cleveland Clinic Foundation, Cleveland, Ohio
Neurosurgical Residency (PGY 2-6), July 1981 - June 1986
Distinctions: First Prize Neuroscience Research, June 1982
 Chief Resident, July 1984-June 1985
 Crile Traveling Fellowship Award, July 1985-June 1986.

FELLOWSHIP TRAINING

Neurotraumatology Fellowship (Honorary Registrar). The Head and Spinal Injury Unit,
The Royal Infirmary of Edinburgh, Edinburgh, Scotland, U.K.; October-December 1983.

Neurovascular Surgery Fellowship. Barrow Neurological Institute, Phoenix, Arizona; July 1985-June 1986 (Crile Traveling Fellow).

MEDICAL LICENSURE AND SPECIALTY BOARDS

National Board of Medical Examiners; Diplomate # 238204; July 1, 1981.

American Board of Neurological Surgery; Diplomate # 8862; September 8, 1988.

Board of Medical Quality Assurance of the State of California; Medical License #G56391, issued November 18, 1985 (valid through 2007).

State Medical Board of Florida; Medical License #61188, issued February 14, 1991 (inactive status).

Division of Medical Quality Assurance; Connecticut Medical License #032818, issued March 5, 1993 (valid through 2008)

The Colorado State Board of Medical Examiners; Medical License # 39000, issued September 14, 2000 (inactive status).

State of Illinois Department of Professional Regulation; Medical License # 036-109947, issued August 18, 2003 (valid through 2008).

SPECIAL TRAINING

Advanced Trauma life Support; Yale New Haven Hospital; June 1998.

Gamma Knife Radiosurgery Training; University of Pittsburgh, September 1999.

Conscious Sedation Training; University of Colorado Hospital, April 2002.

Brainlab Novalis Shaped Beam Stereotactic Radiosurgery Training; University of California at Los Angeles, May 2002.

Executive Leadership Seminar for Department Chairs and Associate Deans, American Association of Medical Colleges (Sponsored by Harvard Medical School), Fort Lauderdale, Florida, October 4-9, 2002.

Advanced Neuroendoscopy Techniques, Aesculap Academy, Stanford University Medical Center, Palo Alto, California, July 2003.

Executive Leadership Training Initiative, Evanston Northwestern Healthcare Medical Group and Kellogg School of Management of Northwestern University. Quarterly management and strategic development seminars for ENH physician leadership. January 2004- present.

CLINICAL PRACTICE AND ACADEMIC APPOINTMENTS

July 1985 - June 1986

Barrow Neurological Institute, Phoenix, Arizona
Neurovascular Fellow

July 1986 - February 1987

Division of Neurosurgery, Stanford University School of Medicine
Physician Specialist, Clinical Assistant Professor of Surgery
Associate Chief of Neurosurgery, Santa Clara Valley Medical Center, San Jose, California

February 1987 - December 1987

Mission Hospital and Medical Center, Mission Viejo, California
Attending Neurosurgeon
Clinical Assistant Professor of Neurosurgery
University of California at Irvine, Orange, California

December 1987 - May 1993

Cleveland Clinic Foundation, Cleveland, Ohio
Staff Physician, Department of Neurological Surgery
Head, Section of Epilepsy Surgery (1988-1991)
Head, Section of Cerebrovascular Surgery (1990 - 1993)
Surgical Director, Cerebrovascular Center (1990 - 1993)
Vice-Chairman, Department of Neurological Surgery (1991-1993)

May 1993 - December 2000

Yale University School of Medicine, New Haven, Connecticut
Associate Professor of Surgery (Neurosurgery) (1993-1994)
Professor of Neurosurgery in the Clinician-Scholar Track with Continuing Appointment (1994-2000)
The Nixdorff-German Professor of Neurosurgery (1997-2000)

Yale New Haven Hospital, New Haven, Connecticut (1993-2000)
Attending Neurosurgeon
Head, Neurovascular Surgery Program
Co-Director, Yale Cerebrovascular Center
Medical Director, Neuroscience-Neurovascular Intensive Care Unit

January 2001 – November 2003

University of Colorado School of Medicine, Denver, Colorado
 Chairman, Department of Neurosurgery (2001-2003)
 Professor (with Tenure) of Neurosurgery, Neurology and Pathology
 The Ogsbury-Kindt Chair in Neurosurgery (2001 to 2003)

University of Colorado Health Sciences Center, The Denver Veterans Administration Medical Center, Denver Health Medical Center, The Children's Hospital, Denver, Colorado
 Neurosurgeon-in-Chief (2001-2003)
 Attending Neurosurgeon (2001-2003)

November 2003 – Present

Northwestern University Feinberg School of Medicine, Chicago, Illinois
 Professor of Neurological Surgery (with Tenure)
 Vice Chairman for Research and Program Development

Evanston Northwestern Healthcare, Evanston, Illinois
 Senior Attending Neurosurgeon
 Director of Neurovascular Surgery and Neurosurgical Critical Care
 Co-Director of Stereotactic Radiosurgery
 Director of Neurovascular Biology Laboratory (Research Institute)

Robert H. Lurie Comprehensive Cancer Center
 Full Member (2006-present)

INTRAMURAL COMMITTEES**July 1986 – February 1987**

Surgical Morbidity Committee, Santa Clara Valley Medical Center

December 1987 – June 1988

Laser Committee, Cleveland Clinic Foundation

September 1989 – August 1990

Neurology Chairman Search Committee, Cleveland Clinic Foundation

December 1987 – June 1991

Quality Assurance Officer, Department of Neurological Surgery, Cleveland Clinic Foundation

December 1987 – December 1991

Epilepsy Executive Committee, The Epilepsy Program, Cleveland Clinic Foundation

January 1991 - July 1992

Ohio State University Neuroscience Liaison Committee, Cleveland Clinic Foundation

March 1991 - July 1992

Marketing Strategy Taskforce, Cleveland Clinic Foundation

July 1991 - July 1992

Committee for Policies on Appointments and Promotions, Division of Surgery, Cleveland Clinic Foundation

September 1990 - May 1993

Cerebrovascular Executive Committee, The Cerebrovascular Center, Cleveland Clinic Foundation

December 1990 - May 1993

Doris E. Flynn Endowment Executive Committee, Cleveland Clinic Foundation

March 1991 - January 1993

Neuroscience Marketing Committee, Departments of Neurological Surgery and Neurology, Cleveland Clinic Foundation

May 1992 - January 1993

Neurobiology Chair Search Committee, Cleveland Clinic Foundation

May 1993 - December 2000

Executive Council and Steering Committee, Yale Cerebrovascular Center
Yale University School of Medicine and Yale New Haven Hospital

September 1993 - December 2000

Chairman, Neuroscience-Neurovascular Critical Care Committee
Yale New Haven Hospital

September 1993 - May 1994

Strategic Planning and Marketing Committee, The Faculty Practice Plan
Yale University School of Medicine

July 1994 - December 2000

Board of Permanent Officers, Yale University School of Medicine

April 1995 - December 1996

Faculty Career Development Committee, Department of Surgery
Yale University School of Medicine

April 1995 - December 1996

Education Committee, Department of Surgery

Yale University School of Medicine

January 1996 - June 1997

Doctor of Medicine Thesis Committee, Department of Surgery
Yale University School of Medicine

January 1996 - December 2000

Neurosciences Quality Council, Yale New Haven Hospital

January 1996 - December 2000

Critical Care Directors' Committee, Yale New Haven Hospital

July 1998 - December 2000

Senior Appointments and Promotions Committee
Yale University School of Medicine

July 1998 - December 2000

Telemedicine-Telecommunications Advisory Board
Yale University School of Medicine and Yale New Haven Hospital

May 1999 - December 2000

Endovascular and Catheter Credentialing Committee
Department of Diagnostic Radiology, Yale-New Haven Hospital

January 2001- February 2003

Executive Committee
University of Colorado School of Medicine

January 2001- February 2003

University of Colorado Hospital Medical Board

January 2001- February 2003

Board of Directors
University Physicians Inc., University of Colorado School of Medicine

January 2001 - October 2003

Operating Room Committee
University of Colorado Hospital

March 2001- July 2001

Ad Hoc Committee on Investment and Program Development
University Physicians Inc., University of Colorado School of Medicine

March 2001- October 2003

Founding Medical Director, Neuro-intensive Care Unit
University of Colorado Hospital

May 2001- October 2003

Emergency Department Advisory Committee
University of Colorado Hospital

May 2001- June 2002

Department of Surgery Chairman Search Committee
University of Colorado School of Medicine

September 2001- July 2003

Chair, Department of Diagnostic Radiology Chairman Search Committee
University of Colorado School of Medicine

May 2002- September 2003

Academic Space Committee (Backfill 9th and Colorado Campus)
University of Colorado School of Medicine

November 2003 - Present

Faculty Promotions Committee, Department of Neurological Surgery
Northwestern University Feinberg School of Medicine

November 2003 - Present

Department of Neurological Surgery Executive Committee
Northwestern University Feinberg School of Medicine

November 2003 - Present

Department of Neurological Surgery Residency Curriculum Committee
Northwestern University Feinberg School of Medicine

November 2003 - Present

Chairman, Stereotactic Radiosurgery Taskforce
Evanston Northwestern Healthcare

January 2004 - Present

Co-Director, Stroke Steering Committee
Evanston Northwestern Healthcare

June 2004 - Present

Physician Leader, Neurosciences Growth Initiative Taskforce
Evanston Northwestern Healthcare

January 2005 - Present

Faculty Advisor, Club Francais
Northwestern University Feinberg School of Medicine

February 2005 - Present

Faculty Affiliate

Center for International and Comparative Studies (CICS) of Northwestern University

January 2005 – Present

Research Project Faculty Reviewer
 Medical Student Summer Research Program
 Northwestern University Feinberg School of Medicine

March 2006 – Present

Faculty Member, Robert H. Lurie Cancer Center
 Northwestern University Feinberg School of Medicine

EXTRAMURAL COMMITTEES

October 1990 – October 2003

Congress of Neurological Surgeons

Sergeant-at-Arms Committee (1987)
 Resident Registration Committee (1989)
 Chairman, International Development Subcommittee (1992-1994)
 Executive Council, International Committee (1994-1996)
 Scientific Program Committee (1990-1992, 1994, 1996)
 Chairman, Education Committee (1994-1997)
 Chairman, Bylaws Committee (1994-1997)
 Chairman, Scientific Program Committee (1997-1998)
 Chairman, Annual Meeting Committee (1998-1999)
 Strategic Planning Committee (1994-2002)
 Leadership Development Committee (1997-2002)
 Governor Representative, American College of surgeons (1996-2002)
 Chairman, Future Sites Committee (1998-2000)
 Chairman, Professional Conduct Committee (2001-2002)
 Chairman, Nominating Committee (2002-2003)
 Executive Committee (1993-2002)
51st President (2000-2001)
Historian and Archivist; and Past-presidents' liaison (2006-

present)

April 1990 – April 2001

American Association of Neurological Surgeons

Drugs and Devices Committee (1990-1992)
 Publications Committee (1990-1994)
 Representative to the American College of Surgeons (1993-1996)
 Taskforce on Sponsorship of Outside Activities (1996-1997)
 Carotid Endarterectomy Taskforce (1995-1997)

Outcomes Committee (1996-2001)
 Guidelines Committee (1996-2001)
 Board of Directors (2000-2001)

May 1992 - Present

World Association of Lebanese Neurosurgeons

Founding President (1992-1997)
 Chairman, Scholarship Drive (1997-2000)
 Education Committee (2003-present)
 Chairman, Taskforce on Education and Quality Improvement in Lebanon
 (2004-present)
 Scientific Program Committee, Homecoming Congress (1998, 2004, 2006)

May 1993 - Present

**Section on Cerebrovascular Surgery of the American Association of
 Neurological Surgeons and the Congress of Neurological Surgeons**

Chairman, Membership Committee (1993-1996)
 Chairman, Annual Meeting Organizing Committee (1995)
 Chairman, Intersociety Liaison Taskforce (1994-present)
 Chairman, Subcommittee on Outcome Assessment (1996-present)
 Secretary-Treasurer (1996-1998)
 Secretary (1998-1999)
 Executive Council (1993-present)
 Senior Advisory Council (2004 - present)
Chairman (2000-2001)

May 1994 - Present

Editorial Board, TECHNIQUES IN NEUROSURGERY

May 1993 - June 1996

Editorial Board, CLINICAL NEUROSURGERY

April 1995 - Present

Editorial Board, NEUROSURGERY (1995 - present)
 Section Editor, Case Problems (1997-2000)
 Section Editor, Science Times in Neurosurgery (2002-present)
 Associate Editor (2002-present)

October 2000- Present

International Advisory Board, NEUROLOGIA MEDICO-CHIRURGICA (Official
 Journal of the Japan Neurosurgical Society)

October 1993 - Present

American Stroke Association, American Heart Association

Fellow, Stroke council (1985-present)
 Editorial Board, Stroke Council Newsletter (1993-1996)
 Executive Committee, Stroke Council (1996-2001)
 Abstract Grading Committee, International Stroke Conference (2003-

present)

October 1995 - Present

Research Update in Neuroscience for Neurosurgeons (RUNN) Course
 Sponsored by the Society of Neurological Surgeons
 Marine Biology Laboratory, Woods Hole, Massachusetts
Course Director (1999-2003)
 Faculty (1995-present); Course Co-Director (2004-present)

November 1994 - October 2002

American College of Surgeons
 Neurosurgery Advisory Council (1994-2002)
 Surgical Outcomes Taskforce (1996-1998)
Board of Governors (1996-2002)

March 1995 - December 2000

Stroke Initiative Taskforce, American Heart Association (Connecticut Affiliate)

July 1997 - December 2000

Consultant, "Advanced Acute Stroke Care" Certification Course
 American Academy of Neurology

January 1997 - December 2000

Scientific Advisory Committee, Cerebral Aneurysm Outcome Study
 State of New York Department of Health

March 1997 - December 2000

Consultant for Neurosurgical Development
 Ministry of Health and Population, Arab Republic of Egypt

April 1998 - March 2003

Board of Trustees, Foundation for International Education in Neurological
 Surgery (FIENS)

June 1998 - December 2000

Editorial Board, World Federation of Neurosurgical Societies

March 2000 - Present

Editorial Board, SEMINARS IN CEREBROVASCULAR DISEASE AND STROKE

April 2000 - Present

American Board of Neurological Surgery
 Oral Examination, Guest Examiner (November 2000)
 Written Examination Writing Committee (April 2000 - present)

October 2002 - June 2003

Colorado Stroke Advisory Board
 Department of Public Health and the Environment, State of Colorado

October 2000- Present**Data Monitoring and Safety Committee**

Effect of Recombinant Tissue Plasminogen Activator on Resolution of Intraventricular Hemorrhage. U.S. Food and Drug Administration multi-institutional trial CLEAR IVH (Hanley D, Principal Investigator).

January 2002- Present

Chairman, Scientific Advisory Board, ANGIOMA ALLIANCE (international patient support group for cerebral cavernous malformations)

June 2002 - Present

Honorary Member, Arab Board of Neurological Surgery
Editorial Advisory Board, Pan-Arab Journal of Neurosurgery

CURRENT MEMBERSHIP IN PROFESSIONAL SOCIETIES

Alpha Omega Alpha Honor Medical Society (Elected 1980)
American Academy of Neurological Surgery (Elected 1996)
American Association for the Advancement of Science
American Association of Neurological Surgeons
American College of Surgeons (Elected Fellow 1991)
American Epilepsy Society
American Heart Association, Stroke Council (Elected Fellow 1987)
American Society of Stereotactic and Functional Neurosurgery
American Society of Neuroimaging
Chilean Society of Neurosurgery (Honorary Corresponding Member)
Congress of Neurological Surgeons
International Platform Association (Elected Member 1995)
Joint Section on Cerebrovascular Diseases, American Association of Neurological Surgeons and Congress of Neurological Surgeons
Joint Section of Functional and Stereotactic Neurosurgery, American Association of Neurological Surgeons and Congress of Neurological Surgeons
Joint Section on Trauma and Critical Care, American Association of Neurological Surgeons and Congress of Neurological Surgeons
New England Neurosurgical Society
New York Academy of Sciences
North American Skull Base Society
Research Society of Neurological Surgeons
Société de Neurochirurgie de Langue Française (Membre Correspondant 1989-1995; Membre Titulaire 1995-present)
Society of Neurological Surgeons, "Senior Society" (Elected May 2001)
United States Section, International College of Surgeons (Elected Fellow 1987)
World Society of Functional and Stereotactic Neurosurgery
World Association of Lebanese Neurosurgeons (President 1992-1997)
Yale Surgical Society

SPECIAL INTERESTS

Neurovascular surgery; vascular biology; neuro-critical care; hemorrhagic stroke; stereotactic radiosurgery; epilepsy surgery; neurosurgical education; history and philosophy of neurosurgery

LANGUAGES

Written, spoken and scientific knowledge of English, French and Arabic

GRANTS AND RESEARCH SUPPORT

“Prostacyclin and Experimental Brain Ischemia”

Co-investigator (J.R. Little, P.I.)

The Cleveland Foundation

\$60,000. (1982-1984)

“The Crile Traveling Fellowship Award”

The Cleveland Clinic Foundation

Salary support and travel (1985-1986)

“Single Cell Electrophysiologic Studies in Epilepsy”

Co-investigator (D. Knowles, P.I.)

NIH/NINDS R01 NS24956

\$420,000. Total Direct Costs (1988-1991)

“Clinical Research Fund in Cerebrovascular Surgery”

Principal Investigator

The Cleveland Clinic Foundation

Research Technician and Supplies (1990-1993)

“Magnetic Resonance Imaging in Experimental Cerebral Ischemia”

Co-investigator (S. Jones, P.I.)

American Heart Association (91013150)

\$200,000. Total Direct Costs (1990-1993)

“Etiology Subproject – Hemorrhagic Stroke Project”

Co-Principal Investigator (with W. Kernan)

Database and Research Nurse Support from HSP (R. Horwitz, P.I.) (1996-2000)

“Aneurysm Outcomes Study”

Co-Principal Investigator (with M. Sturaitis)

The Center for Outcomes Research and Evaluation, Yale-New Haven Hospital

Database, Research Nurse and Biostatistics Support (1998-2000)

“Pathobiology of Cerebral Cavernous Malformation”

Co-investigator (R.P. Lifton, P.I.)

NIH/NINDS R01 NS36194

\$1,412,460. Total Direct Costs (1997-2002)

“The Nixdorff-German Endowed Professor Chair in Neurosurgery”

Yale University
 \$60,000-\$80,000 per year (endowment income) for Research and Program support
 (1997-2000)

“Image Guided Neurosurgery: Assessment and Development of Technology”
 Principal Investigator
 Stryker-Leibinger Corporation, University of Colorado Health Sciences Center
 \$1,800,000. Equipment, personnel and research support (2002-2004)

“Statistical Analysis of Differential Gene Expression in Human Cerebral Vascular Malformations”
 Principal Investigator, Butcher Award for Genomics Research
 University of Colorado President’s Taskforce on Genomics and Biotechnology
 \$ 100,000 Total Direct Costs (2003-2004)

“Phenotype-Genotype in Cerebral Vascular Malformations”
 Principal Investigator (Mid-Career Development Grant in Patient Oriented Research)
 NIH/NINDS K24 NS02153
 \$512,080 Total Direct Costs (2001-2006)

“Minimally Invasive Surgery plus rTPA for Intracerebral Hemorrhage Evacuation (MISTIE) Trial”
 Principal Investigator, Evanston Northwestern Healthcare (ENH) Site
 NIH/NINDS (Subcontract with Johns Hopkins Medical Institutions)
 \$ 377,000 Total Direct Costs to ENH site (2005-2009)

“Imaging of Inflammatory Cells in Cerebral Cavernous Malformations”
 Principal Investigator
 ENH Pilot Grant Program (\$ 29,900 Total Direct costs 2005-2006)
 ENH Research Career Development Award (Midcareer) (\$ 100,000/year salary support for protected time 2005-2007)

“Immune Response in Cerebral Cavernous Malformations”
 Principal Investigator
 NIH/NINDS R21-NS052285,
 \$240,675 Total Direct Costs (2006-2008)

“The Clear IVH Trial” (Intraventricular thrombolysis for intraventricular hemorrhage)
 Data Safety and Monitoring Board (2002 to 2007) Phase II trial (FDA and Genetech)
 Surgical Principal Investigator (Phase III Trial in preparation, NIH/NINDS funding in review)

PRESENTATIONS AT MAJOR MEETINGS

AND VISITING PROFESSORSHIPS

1. Awad IA, Slattery CW: Simple method yields new insight into role of phospholipids in prothrombin activation. Presented to the American Federation of Clinical Research, Carmel, California, February 9, 1979.
2. Awad IA, Little JR, Furlan AJ, Weinstein MA: Clinical angiographic correlation of non-invasive rCBF measurements in suspected brain ischemia. Presented to the American Association of Neurological Surgeons, Honolulu, Hawaii, April 28, 1982.
3. Little JR, Furlan AJ, Awad IA, Modic MT, Bryerton B: Intravenous digital subtraction angiography in brain ischemia. Presented to the American Association of Neurological Surgeons, Honolulu, Hawaii, April 28, 1982.
4. Awad IA, Little JR, Skrinska V, Lucas F, Lesser RP: Treatment of focal cerebral ischemia with prostacyclin and indomethacin. Presented to the Fifth International Symposium on Brain Edema, Groningen, The Netherlands, June 11, 1982.
5. Awad IA, Little JR, Furlan AJ, Weinstein MA: Non-invasive rCBF measurements in brain ischemia. Presented to the 17th Canadian Congress of Neurological Sciences, Toronto, Canada, June 25, 1982.
6. Awad IA, Little JR: Modification of regional cerebral blood flow by extracranial-intracranial bypass surgery: A clinical and angiographic correlation. Presented to the American Association of Neurological Surgeons, Washington, D.C., April 25, 1983.
7. Little JR, Latchaw JP, Awad IA: Treatment of acute focal cerebral ischemia. Presented to the Society of University Neurosurgeons, Durham, North Carolina, April 16, 1983.
8. Awad IA, Little JR, Bryerton B, Furlan AJ: Cerebral blood flow in extracranial-intracranial bypass surgery. Presented to the VIIth International Symposium on Cerebral Blood Flow and Metabolism, Paris, France, June 21, 1983.
9. Awad IA, Hahn JF, Lesser RP, Luders H: Extraoperative cortical mapping in seizure patients - surgical significance of interpatient variability. Presented to the American Association of Neurological Surgeons, San Francisco, California, April 8-12, 1984.
10. Awad IA, Hahn JF, Lesser RP, Luders H: Extraoperative cortical mapping in epileptic patients using chronically implanted subdural electrodes. Presented to the Association of British Neurological Surgeons, Edinburgh, Scotland, United Kingdom, September 19-22, 1984.
11. Awad IA, Furlan AJ, Little JR: EC-IC bypass surgery for arterial stenoses. Presented to the VIIth International Symposium on Microsurgical Anastomoses for Brain Ischemia, Phoenix, Arizona, November 21, 1984.

12. Awad IA, Little JR, Furlan AJ: Intracranial arterial stenoses - natural history after EC-IC bypass surgery. Presented to the Congress of Neurological Surgeons, Honolulu, Hawaii, October 2, 1985.
13. Awad IA, Modic MT, Little JR, Furlan AJ: Magnetic resonance imaging after transient brain ischemia. Presented to the Congress of Neurological Surgeons, Honolulu, Hawaii, October 2, 1985.
14. Awad IA, Spetzler RF, Johnson PC, Hodak JA, Carey R: Incidental lesions noted on magnetic resonance imaging of the Brain - An index of chronic cerebrovascular disease. Presented to the Research Society of Neurological Surgeons, Phoenix, Arizona, March 6, 1986.
15. Awad IA, Bay JW, Rogers L: Leptomeningeal metastasis from supratentorial malignant gliomas. Presented to the American Association of Neurological Surgeons, Denver, Colorado, April 13, 1986.
16. Williams F. Awad IA, Spetzler RF, Carter LP: Neurological complications after non-penetrating trauma to the cervical carotid artery. Presented to the American Association of Neurological Surgeons, Denver, Colorado, April 13, 1986.
17. Spetzler RF, Awad IA: The future of EC-IC bypass surgery. Presented at the Cerebrovascular Disease Course to the American Academy of Neurology, 38th Annual Meeting, Chicago, Illinois, April 27, 1986.
18. Awad IA: Incidental lesions noted on magnetic resonance imaging of the brain in the elderly. Presented to the Rocky Mountain Neurosurgical Society, Keystone, Colorado, June 21, 1986.
19. Awad IA: Is there a future for cerebral revascularization surgery? Presented to the Rocky Mountain Neurosurgical Society, Keystone, Colorado, June 22, 1986.
20. Johnson PC, Awad IA: Pathology of incidental lesions found in magnetic resonance images of brain at autopsy. Presented to the Xth International Congress of Neuropathology, Stockholm, Sweden, September 7, 1986.
21. Awad IA, Spetzler RF, Liu SS, Hadley MN: Pathophysiology of ischemic symptoms in patients with lesions amenable to EC-IC bypass surgery. Presented to the Eighth International Symposium on Microsurgical Anastomosis for Cerebral Ischemia, Florence, Italy, September 14, 1986.
22. Awad IA, Spetzler RF, Hodak JA: Proton magnetic resonance imaging in the evaluation of patients for EC-IC bypass surgery - advantages and limitations. Presented to the Eighth International Symposium on Microsurgical Anastomosis for Cerebral Ischemia, Florence, Italy, September 14, 1986.

23. Awad IA: Neurosurgical point of view in North America (Round Table Discussion) - the future of EIAB for cerebral ischemia. Presented to the Eighth International Symposium on Microsurgical Anastomosis for Cerebral Ischemia, Florence, Italy, September 14, 1986.
24. Awad IA, Spetzler RF, Johnson PC: "Unidentified Bright Objects" on magnetic resonance imaging of the brain. Presented to the 12th International Joint Conference on Stroke and Cerebral Circulation, Tampa, Florida, February 26, 1986.
25. Awad IA, Rekate HG, Chizeck HO, Brodkey J: Aging, periventricular encephalomalacia, and normal pressure hydrocephalus: A common link? Presented to the American Association of Neurological Surgeons, Dallas, Texas, May 3, 1987.
26. Awad IA, Kalfas I, Hahn JF, Hardy RW: Intracranial meningiomas in the aged. Presented to the American Association of Neurological Surgeons, Dallas, Texas, May 3, 1987.
27. Awad IA, Katz A, Hahn JF, Luders H: Extent of resection in temporal lobe epilepsy. Presented to the Research Society of Neurological Surgeons, Rochester, Minnesota, May 28, 1988.
28. Awad IA, Spetzler RF, Little JR: Methodological lessons from the International Cooperative EC-IC Bypass Study. Presented to the Microsurgery for Cerebral Ischemia Ninth International Symposium, Detroit, Michigan, July 6, 1988.
29. Pillay PK, Awad IA, Little JR, Spetzler RF: Anterior circulation bypass survey in the era following the International Cooperative Bypass Study. Presented to the Microsurgery for Cerebral Ischemia Ninth International Symposium, Detroit, Michigan, July 8, 1988.
30. Awad IA, Spetzler RF, Hodak JA: Magnetic resonance imaging in minor brain ischemia. Presented to the Fourth Toronto Stroke Workshop, Toronto, Canada, September 14, 1988.
31. Burgess RC, Skipper G, Edwards CR, Luders H, Barnett GH, Awad IA: A flexible epidural PEG electrode for chronic EEG recording. Presented to the Research Day Poster Session, Cleveland Clinic Foundation, September 23, 1988.
32. Awad IA, Katz A, Hahn JF, Luders H: Does extent of resection affect outcome of temporal lobectomy for intractable epilepsy? Presented to the Congress of Neurological Surgeons, Seattle, Washington, September 25, 1988.
33. Pillay PK, Awad IA, Little JR: Surgical management of syringomyelia: A three year experience in the era of magnetic resonance imaging. Presented to the Congress of Neurological Surgeons, Seattle, Washington, September 25, 1988.
34. Pillay PK, Little JR, Awad IA: Symptomatic Arnold-Chiari Malformation in adults: Surgical experience in the era of magnetic resonance imaging. Presented to the Congress of Neurological Surgeons, Seattle, Washington, September 25, 1988.

35. Awad IA, Spetzler RF, Johnson PC: Chronic cerebrovascular disease: The impact of age and vascular risk factors on brain parenchyma. Presented to the Congress of Neurological Surgeons Postconvention, Victoria, Canada, September 30, 1988.
36. Awad IA, Rosenfeld JF, Luders H: Extent and distribution of epileptic foci associated with structural lesions of the brain. Presented to the American Electroencephalographic Society Annual Meeting, San Diego, California, October 2, 1988.
37. Katz A, Awad IA, Kong AK, Luders H: Extent of temporal lobectomy and seizure outcome: A new quantitative approach. Presented to the American Electroencephalographic Society Annual Meeting, San Diego, California, October 2, 1988.
38. Burgess RC, Skipper G, Edwards CR, Luders H, Barnett GH, Awad IA: A flexible epidural PEG electrode for chronic EEG recording. Presented to the American Electroencephalographic Society Annual Meeting, San Diego, California, October 2, 1988.
39. Kong AK, Katz A, Wyllie E, Awad IA, Luders H: Neurological deficits following temporal lobectomy: A new MRI quantitative analysis. Presented to the American Electroencephalographic Society Annual Meeting, San Diego, California, October 2, 1988.
40. Knowles WD, Luders H, Hahn JF, Awad IA: In vitro intracellular recordings from epileptic human neocortex and hippocampus. Presented to the American Epilepsy Society Meeting, San Francisco, California, October 16, 1988.
41. Awad IA, Katz A, Hahn JF, Luders H: Does extent of resection affect outcome of temporal lobectomy for intractable epilepsy? Presented to the American Epilepsy Society Meeting, San Francisco, California, October 16, 1988.
42. Katz A, Chelune GJ, Naugle RI, Kong AK, Awad IA, Luders H: Effects of temporal lobectomy on memory: A new quantitative approach. Presented to the American Epilepsy Society, San Francisco, California, October 16, 1988.
43. Awad IA, Akrawi WP, Little JR, Furlan AJ: Dural arteriovenous malformations with aggressive natural history. Presented to the 14th International Joint Conference on Stroke and Cerebral Circulation, San Antonio, Texas, February 9, 1989.
44. Awad IA, Chimowitz M, Akrawi WA, Estes M: Pathologic spectrum of subcortical lesions identified on magnetic resonance imaging of the brain in the elderly. Presented to the 14th International Joint Conference on Stroke and Cerebral Circulation, San Antonio, Texas, February 9, 1989.
45. Awad IA, Pillay PK, Little JR: Two distinct categories of symptomatic Chiari malformation in adults. Presented to the Annual Meeting Joint Section on Disorders of the Spine and Peripheral Nerves of the American Association of Neurological Surgeons and Congress of Neurological Surgeons, Cancun, Mexico, February 11, 1989.

46. Awad IA, Wylie E: Assessing extent of corpus callosotomy in epilepsy surgery. Presented to the International Pediatric Epilepsy Surgery Symposium, Miami, Florida, March 8, 1989.
47. Awad IA: Early surgery for aneurysmal subarachnoid hemorrhage. Presented to the Catholic University of Santiago International Neurosurgery Symposium, Santiago, Chile, March 30, 1989.
48. Awad IA: Current advances in epilepsy surgery. Presented to the Chilean Neurologic Society International Epilepsy Symposium, Santiago, Chile, April 1, 1989.
49. Knowles WD, Luders H, Hahn JF, Awad IA: Intracellular analysis of human epileptic neocortex: A progress report. Presented to the American Association of Neurological Surgeons, Washington, D.C., April 2, 1989.
50. Awad IA, Akrawi WP, Little JR, Furlan AJ: Dural arteriovenous malformations with aggressive natural history. Presented to the American Association of Neurological Surgeons, Washington, D.C., April 2, 1989.
51. Awad IA, Luders H, Hahn JF: Extent of resection and the outcome of temporal lobectomy for epilepsy. Presented to the American Association of Neurological Surgeons, Washington, D.C., April 2, 1989.
52. Awad IA: Surgical techniques in treatment of epilepsy. Presented at Course #240 "Surgery of the Nervous System. Topics of Importance to Neurologic Practice." Presented to the 41st Annual Meeting of the American Academy of Neurology, Chicago, Illinois, April 14, 1989.
53. Awad IA: Angiomes artérioveineux de la dure-mère: Stratégies thérapeutiques envers les lésions agressives. Presented to the 39th Congress of the Société de Neurochirurgie de Langue Française, Ljubljana, Yugoslavia, June 5, 1989.
54. Awad IA: Traitement chirurgical de l'épilepsie focale (véritablement rebelle) en présence d'une lésion morphologique. Presented to the 39th Congress of the Société de Neurochirurgie de Langue Française, Ljubljana, Yugoslavia, June 6, 1989.
55. Awad IA: Normal pressure hydrocephalus: The periventricular "Swiss-cheese" hypothesis. Presented to the British and North American Joint Neurosurgical Research Symposium, London, England, June 15, 1989.
56. Awad IA, Luders H, Burgess R: Epidural pegs and foramen ovale electrodes: A new class of electrodes of intermediate invasiveness for the mapping of seizure foci. Presented to the American Electroencephalographic Society, New Orleans, Louisiana, September 23, 1989.
57. Estes M, Ratliff NB, Chimowitz MI, Furlan AF, McMahon J, Barnett GH, Sila CA, Conomy JP, Awad IA: Sclerosing vasculopathy in young demented patients with periventricular lesions on MRI. Presented to The American Neurological Association, New Orleans, Louisiana, September 24, 1989.

58. Chimowitz MI, Little JR, Awad IA, Sila CA, Furlan AJ: Intracranial hypertension associated with unruptured pial arteriovenous malformations. Presented to The American Neurological Association, New Orleans, Louisiana, September 24, 1989.
59. Awad IA: Symposium on the spine: Percutaneous lumbar discectomy. Presented to the Singapore Neuroscience Association, Academy of Medicine, Singapore, October 3, 1989.
60. Awad IA: Advances in the management of epilepsy: New areas in the surgical management of epilepsy. Presented to the Singapore Neuroscience Association, Academy of Medicine, Singapore, October 3, 1989.
61. Awad IA, Rosenfeld JV, Hahn JF, Luders H: Resection strategies for structural lesions and intractable epilepsy. Presented to the 9th International Congress of Neurological Surgery, New Delhi, India, October 8, 1989.
62. Awad IA, Rosenfeld JV, Luders H: Resective surgery for intractable epilepsy associated with structural lesions. Presented to the Congress of Neurological Surgeons, Atlanta, Georgia, October 28, 1989.
63. Pillay PK, Awad IA, Bay JW, Dohn D, Ahl JJ, Magdinec M, Little JR: Upper thoracic sympathectomy for essential palmar hyperhidrosis: Cleveland Clinic experience with 440 cases. Presented to the Congress of Neurological Surgeons, Atlanta, Georgia, October 28, 1989.
64. Awad IA, Luders H, Burgess R, Barnett GH, Ahl JJ: A new class of electrodes of "intermediate invasiveness": The role of epidural pegs and foramen ovale electrodes in the mapping of seizure foci. Presented to the Congress of Neurological Surgeons, Atlanta, Georgia, October 28, 1989.
65. Collura TF, Chelune GJ, Turnbull JP, Naugle RI, Luders H, Awad IA: When does temporal lobe resection improve or impair cognitive ability? Presented to the National Academy of Neuropsychology, Washington, D.C., November 2, 1989.
66. Awad IA, Little JR: Perioperative strategies and outcome of subarachnoid hemorrhage from anterior cerebral artery aneurysms. Presented to the Montreal Cerebrovascular Symposium, Montreal, Canada, November 24, 1989.
67. Chelune GJ, Awad IA, Luders H: Verbal memory deficits following temporal lobectomy: Independent or confounded by language. Presented to the American Epilepsy Society, Boston, Massachusetts, December 3, 1989.
68. Wingkun EC, Awad IA, Luders H: The natural history of recurrent seizures following epilepsy surgery. Presented to the American Epilepsy Society, Boston, Massachusetts, December 3, 1989.

69. Awad IA, Larkins M, Luders H, Ahl JJ, Hahn JF: Intractable epilepsy and vascular malformations of the brain: Management strategies. Presented to the American Epilepsy Society, Boston, Massachusetts, December 3, 1989.
70. Awad IA: Management of intractable epilepsy associated with structural lesions. Presented to the Mt. Sinai Medical Center, Visiting Professor, New York, New York, December 14, 1989.
71. Awad IA: Anatomic considerations in temporal lobe epilepsy. Presented to the Mt. Sinai Medical Center, Visiting Professor, New York, New York, December 15, 1989.
72. Awad IA: Epilepsy surgery options and techniques. Presented at the XII International Congress of EEG and Clinical Neurophysiology, Invited Lecture, Rio de Janeiro, Brazil, January 17, 1990.
73. Pillay PK, Awad IA: Postoperative spinal epidural hematomas: A 10-year experience from the Cleveland Clinic. Presented to the Joint Section on Disorders of the Spine and Peripheral Nerves, Capitiva Island, Florida, February 7, 1990.
74. Pillay PK, Awad IA: Upper thoracic sympathectomy in the management of severe hyperhidrosis. Presented to the Joint Section on Disorders of the Spine and Peripheral Nerves, Capitiva Island, Florida, February 7, 1990.
75. Robinson Jr, JR, Little JR, Awad IA: Natural history of cavernous angioma. Presented to the 15th International Joint Conference on Stroke and Cerebral Circulation, Orlando, Florida, February 15, 1990.
76. Chelune GJ, Naugle RI, Luders H, Kawczak K, Awad IA: Changes in cognitive ability as a function of preoperative ability level among temporal lobectomy patients. Presented to the International Neuropsychological Society, Orlando, Florida, February 16, 1990.
77. Awad IA: Dural arteriovenous malformations. Presented to the Neurosurgical Grand Rounds, Oregon Health Sciences University, Visiting Professor, Portland, Oregon, March 10, 1990.
78. Robinson Jr, JR, Little JR, Awad IA: The natural history of cavernous angiomas. Presented to the American Neuroimaging Society, San Diego, California, March 28, 1990.
79. Robinson Jr, JR, Little JR, Awad IA: Natural history of cavernous angiomas. Presented to the American Association of Neurological Surgeons, Nashville, Tennessee, April 28, 1990.
80. Awad IA, Luders H, Ahl JJ, Wingkun EC, Hahn JF: The natural history of recurrent seizures following epilepsy surgery: Implications for re-mapping and re-operation. Presented to the American Association of Neurological Surgeons, Nashville, Tennessee, April 28, 1990.
81. Awad IA, Luders H, Barnett GH, Hahn JF: A new class of electrodes of "intermediate invasiveness" for the mapping of seizure foci. Presented to the American Association of Neurological Surgeons, Nashville, Tennessee, April 28, 1990.

82. Barnett GH, Luders H, Awad IA: Comparison of the BRW and CRW stereotactic arcs for MRI-guided placement of depth electrodes in temporal lobe epilepsy. Presented to the American Association of Neurological Surgeons, Nashville, Tennessee, April 28, 1990.
83. Chelune GJ, Awad IA, Hahn JF, Luders H: Verbal memory deficits following temporal lobectomy: Independent or confounded by language. Presented to the American Association of Neurological Surgeons, Nashville, Tennessee, April 28, 1990.
84. Awad IA: L'hydrocéphalie a pression normale: le resultat d'une encephalomalacie periventriculaire primaire? Presented to the 40th Congress of the Societe de Neurochirurgie de Langue Francaise, Dijon, France, June 4, 1990.
85. Awad IA: Epileptogenesis associated with structural lesions of the brain in man - results of chronic subdural recordings. Presented to the Research Society of Neurological Surgeons Annual Meeting, Boston, Massachusetts, June 13, 1990.
86. Awad IA: Video-seminar on surgical techniques (Moderator and Speaker). Invited presentation to the Second International Symposium on Epilepsy Surgery, Cleveland, Ohio, June 20, 1990.
87. Awad IA: Subdural electrodes for mapping of temporal lobe epilepsy. Invited presentation to the Second International Symposium on Epilepsy Surgery, Cleveland, Ohio, June 20, 1990.
88. Awad IA: Failures and reoperations. Invited presentation to the Second International Symposium on Epilepsy Surgery, Cleveland, Ohio, June 21, 1990.
89. Awad IA: Satellite Workshop on standardization of documenting and reporting resective procedures (Moderator and Speaker). Invited presentation to the Second International Symposium on Epilepsy Surgery, Cleveland, Ohio, June 22, 1990.
90. Schaffler L, Luders H, Awad IA, Morris HH: Comprehension deficits elicited by electrical stimulation of Broca's area. Presented to the Second International Symposium on Epilepsy Surgery, Cleveland, Ohio, June 22, 1990.
91. Schaffler L, Luders H, Awad IA, Dinner DS: Anatomical distribution of cortical language sites obtained by functional mapping technique with subdural electrodes grids. Presented to the Second International Symposium on Epilepsy Surgery, Cleveland, Ohio, June 22, 1990.
92. Van Ness PC, Kucera A, Estes M, Salanova V, Morris HH, Luders H, Awad IA: Sensitivity and prognostic value of preoperative CT and MRI in neocortical focal epilepsy. Presented to the Second International Symposium on Epilepsy Surgery, Cleveland, Ohio, June 22, 1990.
93. Wingkun EC, Awad IA, Luders H: The natural history of recurrent seizures following epilepsy surgery. Presented to the Second International Symposium on Epilepsy Surgery, Cleveland, Ohio, June 22, 1990.

94. Awad IA: Surgical treatment of the epilepsies. Presented to the University of Kentucky Medical Center, Neuroscience Grand Rounds, Visiting Professor, Lexington, Kentucky, September 27, 1990.
95. Awad IA: A fresh look at brain ischemia. Presented as a special lecture to the University of Kentucky Medical Center, Visiting Professor, Lexington, Kentucky, September 27, 1990.
96. Noachtar S, Burgess RC, Luders H, Wyllie E, Awad IA: The epidural PEG electrode: A new semi-invasive electrode for evaluation in epilepsy-surgery. Presented to the German Section of the International League Against Epilepsy, 30th Meeting, Berlin, Germany, October 11, 1990.
97. Van Ness PC, Awad IA, Luders H, Hahn JF: The relationship of epileptogenic zone resection, lesion resection and outcome in 27 cases with neocortical epilepsy. Presented to the American Neurological Association, Atlanta, Georgia, October 15, 1990.
98. Awad IA: Epilepsy surgery: Introduction and overview. Invited presentation to the Congress of Neurological Surgeons, Los Angeles, California, October 24, 1990.
99. Nayel MH, Awad IA, Luders H: Extent of mesiobasal resection determines outcome after temporal lobectomy for intractable complex partial seizures. Presented to the Congress of Neurological Surgeons, Los Angeles, California, October 24, 1990.
100. Nayel MH, Awad IA, Luders H: Extent of mesiobasal resection determines outcome of temporal lobectomy for intractable epilepsy. Presented to the American Epilepsy Society, San Diego, California, November 11, 1990.
101. Awad IA, Larkins M, Nayel MH, Jones SC, Knowles WD: Experimental model of limbic epilepsy adapted for regional blood flow and metabolism studies. Presented to the American Epilepsy Society, San Diego, California, November 11, 1990.
102. Bourgeois BFD, Awad IA, Pippenger CE, Ebrahim ZV, Luders H: Brain concentrations of carbamazepine and carbamazepine-epoxide in humans during carbamazepine absorption and elimination. Presented to the American Epilepsy Society, San Diego, California, November 11, 1990.
103. Pillay PK, Barnett GH, Luders H, Awad IA: MRI-guided placement of depth electrodes in temporal lobe epilepsy: A comparison of the BRW and CRW arcs. Presented to the American Epilepsy Society, San Diego, California, November 11, 1990.
104. Knowles WD, Awad IA, Luders H: Differences of in vitro electrophysiological properties of human epileptic neocortical and hippocampal neurons. Presented to the American Epilepsy Society, San Diego, California, November 11, 1990.
105. Chelune GJ, Sedlak J, Naugle RI, Luders H, Awad IA: Use of confidence intervals to evaluate meaningful changes in memory after temporal lobectomy. Presented to the American Epilepsy Society, San Diego, California, November 11, 1990.

106. Wyllie E, Naugle RI, Awad IA, Chelune GJ, Luders H: Predictors of adverse memory outcome after temporal lobectomy for intractable epilepsy. Presented to the American Epilepsy Society, San Diego, California, November 11, 1990.
107. Naugle RI, Chelune GJ, Luders H, Awad IA: Detection of changes in memory for material-specific information following left versus right temporal lobectomy using the Wechsler Memory Scale-Revised. Presented to the Nineteenth Annual Meeting of the International Neuropsychological Society, San Antonio, Texas, February 13, 1991.
108. Chimowitz MI, Estes M, Furlan AJ, Awad IA: Further observations on the pathology of subcortical lesions identified on magnetic resonance imaging. Presented to the 16th International Joint Conference on Stroke and Cerebral Circulation, San Francisco, California, February 21, 1991.
109. Lim SH, Dinner DS, Luders H, Pillay PK, Awad IA, Morris HH, Wyllie E: Anatomical location and somatotopic representation of human supplementary motor area. Presented to the American Academy of Neurology, Boston, Massachusetts, April 21, 1991.
110. Dinner DS, Lim SH, Luders H, Pillay PK, Awad IA: Supplementary eye field in humans defined by electrical stimulation of mesial frontal cortex. Presented to the American Academy of Neurology, Boston, Massachusetts, April 21, 1991.
111. Van Ness PC, Awad IA: Two distinct seizure types from the same temporal lobe. Presented to the American Academy of Neurology, Boston, Massachusetts, April 21, 1991.
112. Awad IA: Occult vascular malformations. Invited presentation (Breakfast Seminar) to the American Association of Neurological Surgeons, New Orleans, Louisiana, April 24, 1991.
113. Awad IA, Magdinec M: Microsurgical technique and postoperative angiographic results in carotid endarterectomy. Presented to the International Conference on Stroke, Geneva, Switzerland, May 30, 1991.
114. McKenzie R, Awad IA, Magdinec M, Masaryk TJ: Application of magnetic resonance angiography to clinical practice: A critical analysis of one hundred and fifty cases. Presented to the International Conference on Stroke, Geneva, Switzerland, May 30, 1991.
115. Awad IA, Magdinec M, Brady D, Chimowitz MI: Morphological characteristics and gadolinium enhancement do not predict clinical correlates of subcortical MRI hyperintensities. Presented to the International Conference on Stroke, Geneva, Switzerland, May 30, 1991.
116. Awad IA, Chimowitz MI, Estes M: Pathologic spectrum of subcortical lesions identified on magnetic resonance imaging of the brain: Correlations with lesion morphology. Presented to the International Conference on Stroke, Geneva, Switzerland, May 30, 1991.

117. Awad IA: Exérèse neurochirurgicale des malformations arterio-veineuses dures à drainage veineux lepto-meningé. Presented to the 41th Congress of the Société de Neurochirurgie de Langue Française, Lisbon, Portugal, June 4, 1991.
118. Awad IA: Traitement neurochirurgical des epilepsies rebelles de la face interne des hemispheres. Presented to the 41th Congress of the Société de Neurochirurgie de Langue Française, Lisbon, Portugal, June 4, 1991.
119. Chelune GJ, Cheek R, Luders H, Awad IA: Changes in material-specific delayed memory following temporal lobectomy. Presented to the American Psychological Association, San Francisco, California, August 17, 1991.
120. Awad IA: Neurosurgical Reoperations: Reoperation for intractable epilepsy. Session Moderator (Plenary Session) and Invited Presentation to the Congress of Neurological Surgeons, Orlando, Florida, October 26, 1991.
121. Pillay PK, Awad IA, Lim SH, Dinner DS, Luders H: The surgical management of intractable epilepsy of mesial hemispheric origin. Presented to the Congress of Neurological Surgeons, Orlando, Florida, October 26, 1991.
122. Awad IA: Neurophysiologic techniques in tumor surgery. Invited Presentation to the Congress of Neurological Surgeons, Orlando, Florida, October 28, 1991.
123. Awad IA: Surgery for anterior circulation aneurysms. Session Moderator (Luncheon Seminar) of the Congress of Neurological Surgeons, Orlando, Florida, October 29, 1991.
124. Schubert A, Awad IA, Perez-Trepichio AD, Ebrahim ZY, Bloomfield EL: Brain water, ICP and brain relaxation: A comparison of mannitol and furosemide. Presented to the American Society of Anesthesiology, San Francisco, California, October 29, 1991.
125. Coubes P, Awad IA, Sufka B, Antar M: Three dimensional assessment and comparison of interictal HMPAO-SPECT and FDG-PET in intractable temporal lobe epilepsy. Presented to the International Symposium on Quantification of Brain Perfusion With SPECT, Florence, Italy, November 8, 1991.
126. Chelune GJ, Naugle RI, Sedlak J, Luders H, Awad IA: Assessing test-retest memory changes following temporal lobectomy: All is not what it appears. Presented to the American Epilepsy Society, Philadelphia, Pennsylvania, December 8, 1991.
127. Van Ness PC, Olsen RW, Chou S, Awad IA: Flunitrazepam autoradiography in human temporal lobe epilepsy secondary to cortical dysplasia or neoplasms. Presented to the American Epilepsy Society, Philadelphia, Pennsylvania, December 8, 1991.
128. Wyllie E, Murphy D, Luders H, Awad IA, Morris HH, Kotagal P: Flexible epidural peg electrodes in the evaluation for epilepsy surgery. Presented to the American Epilepsy Society, Philadelphia, Pennsylvania, December 8, 1991.

129. Lim SH, Dinner DS, Luders H, Pillay PK, Awad IA, Klem G: Comparison of upper extremity movements elicited from stimulation of the primary and supplementary motor areas. Presented to the American Epilepsy Society, Philadelphia, Pennsylvania, December 9, 1991.
130. Knowles WD, Awad IA, Nayel MH: In vitro electrophysiological differences in human epileptic hippocampal neurons. Presented to the American Epilepsy Society, Philadelphia, Pennsylvania, December 9, 1991.
131. Estes ML, Morris HH, Awad IA, Barna BP: Additive effects of platelet derived growth factor (PDGF) and tumor necrosis factor (TNF) on synthesis of non-neoplastic glial cells in culture. Presented to the American Epilepsy Society, Philadelphia, Pennsylvania, December 9, 1991.
132. Awad IA, Chelune GJ, Naugle RI, Luders H: Extent of resection and memory changes following temporal lobectomy. Presented to the American Epilepsy Society, Philadelphia, Pennsylvania, December 10, 1991.
133. Awad IA, Pillay PK, Lim SH, Dinner DS, Luders H: The surgical management of intractable epilepsy of mesial hemispheric origin. Presented to the American Epilepsy Society, Philadelphia, Pennsylvania, December 10, 1991.
134. Awad IA: Surgical strategies for semi-invasive and invasive electrodes. Invited presentation to the International Epilepsy Symposium of the Instituto de Neurologia y Neurocirugia of Barcelona, Barcelona, Spain, January 20, 1992.
135. Awad IA: Resection strategies and techniques in extratemporal focal epilepsies - functional localization. Invited presentation to the International Epilepsy Symposium of the Instituto de Neurologia y Neurocirugia of Barcelona, Barcelona, Spain, January 21, 1992.
136. Robinson Jr, JR, Awad IA, Magdinec M: Factors predisposing to aggressive neurologic course in cavernous angiomas of the brain. Presented to the 17th International Joint Conference on Stroke and Cerebral Circulation, Phoenix, Arizona, January 30, 1992.
137. Awad IA: Magnetic resonance angiography (MRA): A critical analysis of usefulness in clinical practice. Invited presentation to the 17th International Joint Conference on Stroke and Cerebral Circulation, Phoenix, Arizona, January 30, 1992.
138. Awad IA: Seizures and vascular malformations. Invited presentation to The International Cleveland-Montreal Cerebrovascular Symposium, Cleveland, Ohio, February 6, 1991.
139. Robinson Jr, JR, Awad IA, Magdinec M: Factors predisposing to aggressive neurologic course in cavernous angiomas of the brain. Presented to the International Cleveland-Montreal Cerebrovascular Symposium, Cleveland, Ohio, February 7, 1992.

140. Awad IA: Dural arteriovenous malformations. Invited presentation to The International Cleveland-Montreal Cerebrovascular Symposium, Cleveland, Ohio, February 8, 1992.
141. Awad IA: Advances in Epilepsy Surgery: Concepts and Techniques. Presented as a lecture to the Ohio State University Hospitals, Visiting Professor, Columbus, Ohio, February 15, 1992.
142. Awad IA, Miller DW, Ebrahim Z, Schubert A: Barbiturate induced coma in the postoperative management of giant arteriovenous malformations. Presented to the American Association of Neurological Surgeons, San Francisco, California, April 11, 1992.
143. Robinson Jr, JR, Awad IA, Estes, ML: Pathologic heterogeneity of angiographically occult vascular malformations. Presented to the American Association of Neurological Surgeons, San Francisco, California, April 11, 1992.
144. Barnett GH, Kormos DW, Steiner CP, Luders H, Awad IA, Morris H: Use of a frameless, armless stereotactic wand for registration of EEG electrodes with 3-D neuroimaging. Presented to the American Association of Neurological Surgeons, San Francisco, California, April, 11, 1992.
145. Robinson Jr, JR, Awad IA, Magdinec M: Factors predisposing to aggressive neurologic course in cavernous angiomas of the brain. Presented to the American Association of Neurological Surgeons, San Francisco, California, April 13, 1992.
146. Awad IA, Dinner D, Luders H, Hahn JF: Extraoperative mapping of human supplementary sensory motor area using implanted interhemispheric subdural electrodes. Presented to the American Association of Neurological Surgeons, San Francisco, California, April 14, 1992.
147. McKenzie R, Awad IA, Magdinec M, Masaryk TJ: Magnetic resonance angiography: A critical analysis of usefulness in neurosurgical practice. Presented to the American Association of Neurological Surgeons, San Francisco, California, April 15, 1992.
148. Awad IA: Techniques in Epilepsy Surgery. Invited presentation (Breakfast Seminar) to the American Association of Neurological Surgeons, San Francisco, California, April 16, 1992.
149. Awad IA: Invasive electrodes. Presented as a Visiting Professor to the International Symposium on Comprehensive Epilepsy Care, Saudi German Hospital, Jeddah, Saudi Arabia, April 30, 1992.
150. Awad IA: Surgical strategies for intractable epilepsy. Presented as a Visiting Professor to the International Symposium on Comprehensive Epilepsy Care, Saudi German Hospital, Jeddah, Saudi Arabia, May 1, 1992.

151. Schaffler L, Luders H, Awad IA: Reproduction of different clinical aphasia syndromes by extraoperative electrical stimulation of language dominant cortex. Presented to the Forty-Fourth Annual meeting of the American Academy of Neurology, San Diego, California, May 3, 1992.
152. Awad IA: Pathological heterogeneity of vascular malformations of the brain and implications for clinical management. Presented to the XIXTH Congress of the Middle East Neurosurgical Society, Beirut, Lebanon, May 6, 1992.
153. Awad IA: Comprehensive strategy for the surgical treatment of the epilepsies. Presented to the XIXTH Congress of the Middle East Neurosurgical Society, Beirut, Lebanon, May 7, 1992.
154. Awad IA: Issues and controversies in temporal lobectomy for epilepsy. Presented as a Visiting Professor to St. Joseph's University School of Medicine and the Hotel Dieu de France, Beirut, Lebanon, May 12, 1992.
155. Awad IA: The human supplementary motor area. Presented as a Visiting Professor to the American University of Beirut, Beirut, Lebanon, May 13, 1992.
156. Awad IA: Subdural electrodes. Presented to the Symposium on Intracranial EEG in Epilepsy Surgery, Pittsburgh, Pennsylvania, May 23, 1992.
157. McKenzie R, Awad IA, Magdinec M, Masaryk TJ: Magnetic resonance angiography: a critical analysis of usefulness in neurosurgical practice. Presented to the International Conference - New Trends in Management of Cerebrovascular Malformations, Verona, Italy, June 8, 1992.
158. Awad IA: A conceptual overview of epilepsy surgery. Presented to the Medical College of Ohio, Visiting Professor, Toledo, Ohio, June 25, 1992.
159. Antar MA, Coubes P, Awad IA, Go RT, MacIntyre WJ, Sufka B: Preoperative evaluation of intractable temporal lobe seizures with Tc99m HMPAO SPECT and F-18 FDG PET using a three-dimensional semiquantitative method. Presented to the European Association of Nuclear Medicine Congress 1992, Lisboa, Portugal, August 22, 1992.
160. Perez-Trepichio AD, Xue M, Ng T, Awad IA, Jones SC: Early stroke detection in a model of focal cerebral ischemia with magnetic resonance diffusion-weighted imaging. Presented to the Second World Congress of Stroke International Stroke Society, Washington, D.C., September 8, 1992.
161. Estes ML, Jacobs B, Block CH, Awad IA, Morris HH, Barna BP: PDGF-responsive O-2A progenitor cells in astrocyte-rich cultures derived from epilepsy brain. Presented to the 117th Annual Meeting of The American Neurological Association, Toronto, Canada, October 19, 1992.

162. Awad IA: Epilepsy and Tumors; lesion resection or more? Moderator and Panelist. Luncheon Seminar. Presented at the Congress of Neurological Surgeons, Washington, D.C., November 2, 1992.
163. Awad IA: Technical Aspects of Carotid Endarterectomy. Luncheon Seminar (Video panelist). Presented at the Congress of Neurological Surgeons, Washington, D.C., November 3, 1992.
164. Tuxborn I, So N, Van Ness P, Awad IA, Luders H: Natural history and prognostic significance of auras after temporal lobectomy. Presented to the American Epilepsy Society, Seattle, Washington, December 4, 1992.
165. Kneebone AC, Chelune GJ, Dinner D, Awad IA, Naugle RI: Use of the intracarotid amobarbital procedure to predict material specific memory change following anterior temporal lobectomy. Presented to the American Epilepsy Society, Seattle, Washington, December 4, 1992.
166. Naugle RI, Chelune GJ, Luders H, Awad IA: The value of baseline IQ in predicting postsurgical seizure control. Presented to the American Epilepsy Society, Seattle, Washington, December 4, 1992.
167. Awad IA: Assessment of 2D images. Invited presentation to the American Society of Neuroimaging, Orlando, Florida, February 5, 1993.
168. Awad IA, Magdinec M, Gewirtz RJ, Masaryk TJ: Multimodality armamentarium for safe and definitive treatment of giant cerebral aneurysms. Presented to the 18th International Joint Conference on Stroke and Cerebral Circulation, Miami Beach, Florida, February 11, 1993.
169. Poulos N, Awad IA, Ruggieri P, Modic M, Masaryk TJ: Screening and management decisions for cerebral aneurysms in patients with polycystic kidney disease. Presented to the 18th International Joint Conference on Stroke and Cerebral Circulation, Miami Beach, Florida, February 11, 1993.
170. Awad IA, Robinson Jr, JR, Estes ML, Magdinec M: Mixed vascular malformations of the brain. Presented to the American Association of Neurological Surgeons, Boston, Massachusetts, April 24, 1993.
171. Poulos N, Awad IA, Ruggieri P, Modic M, Masaryk TJ: Screening and management decisions for cerebral aneurysms in patients with polycystic kidney disease. Presented to the American Association of Neurological Surgeons, Boston, Massachusetts, April 24, 1993.
172. Coubes P, Awad IA, Antar M, Magdinec M, Sufka B: Comparison and spacial correlation of interictal HMPAO-SPECT and FDG-PET in intractable temporal lobe epilepsy. Presented to the American Association of Neurological Surgeons, Boston, Massachusetts, April 24, 1993.

173. Awad IA: The challenge of occult vascular lesions (Panelist and Speaker). Invited presentation to the American Association of Neurological Surgeons, Boston, Massachusetts, April 28, 1993.
174. Awad IA: Advances in functional brain mapping (Panelist and Speaker). Invited presentation to the American Association of Neurological Surgeons, Boston, Massachusetts, April 29, 1993.
175. Awad IA: Stroke in Women. Invited Speaker. The American Heart Association Connecticut Affiliate, Inc., Cromwell, Connecticut, May 25, 1993.
176. Awad IA: Biologic behavior of human cerebral vascular malformations. Presented to the Research Society of Neurological Surgeons Annual Meeting, Dublin, Ireland, June 10-12, 1993.
177. Awad IA: Invited Moderator. Session on Treatment of Cerebral Arteriovenous Malformations. 6th Annual Interventional neuroradiology Morbidity and Mortality Conference, Jackson Hole, Wyoming, August 24-28, 1993.
178. Awad IA: Epilepsy of nontemporal lobe origin. Invited Moderator. Congress of Neurological Surgeons Annual Meeting, Vancouver, British Columbia, October 3-7, 1993.
179. Awad IA: Biologic behavior of cavernous malformation. Invited Panelist (M. Yasargil, moderator). International Xth Congress of Neurological Surgery, Acapulco, Mexico, October 17-22, 1993.
180. Awad IA: Surgery of Epilepsy. Invited Speaker. International Xth Congress of Neurological Surgery, Acapulco, Mexico, October 17-22, 1993.
181. Awad IA: Posterior circulation ischemia - Invited Speaker - International Xth Congress of Neurological Surgery, Acapulco, Mexico, October 17 -22, 1993.
182. Awad IA: Vascular malformations and epilepsy. Invited presentation to the American Epilepsy Society (Annual course), Miami, Florida, December 5, 1993.
183. Awad IA, Robinson J, Estes M., Comair Y: Immunohistochemical Analysis of the Structural Biology of Human Cerebral Vascular Malformations. Presented to the 19th International Joint Conference on Stroke and Cerebral Circulation, San Diego, California, February 17-19, 1994.
184. Awad IA: Current Issues and Future Perspectives on Carotid Artery Surgery. Visiting Professor, Department of neurosurgery, Stanford University School of Medicine, Palo Alto, California, April 9, 1994.
185. Awad IA: Occult Vascular Malformations. Invited Speaker, American Association of Neurological Surgeons, San Diego, California, April 12, 1994.

186. Awad IA: Intraoperative Brain Mapping. Invited Speaker, American Association of Neurological Surgeons, San Diego, California, April 13, 1994.
187. Awad IA, Robinson J, Estes M, Comair Y: Immunohistochemical Analysis of Human Cerebral Vascular Malformations. Presented to the American Association of Neurological Surgeons, San Diego, California, April 11, 1994.
188. Awad IA, Gewirtz R, Magdinec M: Results of Open Microsurgical Treatment of Giant Aneurysms of the Anterior Circle of Willis. Presented to the American Association of Neurological Surgeons, San Diego, California April 13, 1994.
189. Comair Y, Dicorletto P, Rhoten P, Awad IA: characterization of endothelial cells cultured from human cerebral vascular malformation. Presented to the American Association of Neurological Surgeons, San Diego, California, April 11-14, 1994.
190. Awad IA: Biologic behavior of human cerebral vascular malformations. Neurosurgery-Neurology Grand Rounds, Visiting Professor, Dartmouth Medical School and the Dartmouth Hitchcock Clinic, Lebanon, New Hampshire, April 29, 1994.
191. Awad IA: Classification and pathology of vascular malformations of the brain. Visiting Professor, Course on Aneurysms and Vascular Malformations, Massachusetts General Hospital and Harvard Medical School, Boston, Massachusetts, May 20, 1994.
192. Awad IA: Natural history of dural arteriovenous malformations. Visiting Professor, Course on Aneurysms and Vascular Malformations, Massachusetts General Hospital and Harvard Medical School, Boston, Massachusetts, May 21, 1994.
193. Awad IA: Giant Intracranial Aneurysms. Visiting Professor Lecture. Saint Joseph's University School of Medicine and Hopital Hotel Dieu, Beirut, Lebanon, June 8, 1994.
194. Awad IA: Clinical spectrum and biologic behavior of human cerebral vascular malformations. Neurosurgery Grand Rounds, Visiting Professor, American University Hospital, Beirut, Lebanon, June 13, 1994.
195. Awad IA: Neurosurgery and Clinical Science: A philosophical analysis in historical perspective. Presented to the New England Neurosurgical Society, Mount Washington, New Hampshire, September 23, 1994.
196. Awad IA: Structural lesions and epilepsy. Invited panelist. Yale Symposium on Magnetic Resonance Techniques and Epilepsy. New Haven, Connecticut, October 6, 1994.
197. Awad IA: Biology of Human Cerebral Vascular Malformations. Visiting Professor Grand Rounds, State University of New York at Buffalo, Buffalo, New York, October 20, 1994.

198. Awad IA: Philosophy of Science and Neurological Surgery. Visiting Professor Special Lecture. State University of New York at Buffalo, Buffalo, New York, October 21, 1994.
199. Awad IA: Pathogenesis and Biologic Behavior of Human Cerebral Vascular Malformations.
200. Visiting Professor, Neurology-Neurosurgery Grand Rounds, Massachusetts General Hospital and Harvard Medical School, Boston, Massachusetts, November 17, 1994.
201. Fayad P, Fulbright RK, Chaloupka JC, Awad IA, White RI Jr: A prospective neurological and magnetic resonance imaging evaluation of hereditary hemorrhagic telangiectasia. Presented to the 20th International Joint Conference on Stroke and Cerebral Circulation, Charleston, South Carolina, February 9, 1995.
202. Awad IA: Dural arteriovenous malformations: Invited presentation (Breakfast Seminar), Annual Meeting of the American Association of Neurological Surgeons, Orlando, Florida, April 26, 1995.
203. Rothbart D, Awad IA, Lee J, Kim J, Criscuolo G: Vascular endothelial growth factor and basic fibroblast growth factor are expressed in human cerebral vascular malformations. Presented to the Annual Meeting of the American Association of Neurological Surgeons, Orlando, Florida, April 23-27, 1995.
204. Chaloupka J, Fulbright, Fayad PB, Awad IA, White RI: The detection of cerebral vascular malformations in patients with hereditary hemorrhagic telangiectasia with MRI/MRA. Presented to the Annual Meeting of the American Association of Neurological Surgeons, Orlando, Florida, April 23-27, 1995.
205. Awad IA: Biologic behavior of human cerebrovascular malformations. Visiting Professor, University of Vermont Health Sciences Center, May 18, 1995.
206. Rothbart D, Awad IA, Lee J, Kim J, Criscuolo G: VEGF and bFGF are expressed in human cerebral vascular malformations. Presented to The 4th International Workshop on Cerebrovascular Surgery, Chicago, Illinois, June 10-14, 1995.
207. Awad IA, Skirgaudas M, Kim J, Criscuolo G: Expression of structural molecular probes and angiogenesis factors in intracranial saccular aneurysms. Presented to The 4th International Workshop on Cerebrovascular Surgery, Chicago, Illinois, June 10-14, 1995.
208. Mayer P, Awad IA, Dickey P, Hopkins LN, Lansen T, Harbaugh R: Misdiagnosis of symptomatic intracranial aneurysm: Prevalence and correlation with outcome at four institutions. Presented to The 4th International Workshop on Cerebrovascular Surgery, Chicago, Illinois, June 10-14, 1995.
209. Putman C, Chaloupka J, Awad IA: Multidisciplinary management of carotid blowout syndrome. Presented to The 4th International Workshop on Cerebrovascular Surgery, Chicago, Illinois, June 10-14, 1995.

210. Putman C, Chaloupka J, Fayad P, Mayer P, Awad IA: Failure of hypotensive challenge to predict delayed hemodynamic stroke following therapeutic carotid occlusion. Presented to The 4th International Workshop on Cerebrovascular Surgery, Chicago, Illinois, June 10-14, 1995.
211. Fayad P, Chaloupka J, Fulbright R, Awad IA, White R: Prospective screening for cerebral vascular malformations in patients with Hereditary Hemorrhagic Telangiectasia. Presented to The 4th International Workshop on Cerebrovascular Surgery, Chicago, Illinois, June 10-14, 1995.
212. Awad IA: Brain vascular malformations; Pathology & Classification. Massachusetts General Hospital Annual Course on Cerebrovascular Malformations and Aneurysms, Boston, Massachusetts, June 28, 1995.
213. Awad IA: Surgeon's Perspective on Embolization of Brain AVMs. Massachusetts General Hospital Annual Course on Cerebrovascular Malformations and Aneurysms, Boston, Massachusetts, June 28, 1995.
214. Awad IA: Natural History and Surgical Management of Dural AVMs. Massachusetts General Hospital Annual Course on Cerebrovascular Malformations and Aneurysms, Boston, Massachusetts, June 29, 1995.
215. Awad IA: Biology and Genetics of Cavernous Malformations. Invited Presentation to the 45th Congrès de la Societe de Neurochirurgie de Langue Francaise, Buenos Aires, Argentina, September 19-22, 1995.
216. Awad IA: Mechanisms of Epileptogenicity of Cavernous Malformations. Invited Presentation to the 45th Congres de la Societe de Neurochirurgie de Langue Francaise, Buenos Aires, Argentina, September 19-22, 1995.
217. Awad IA: Invited Moderator. Interventional Neuroradiology Morbidity Conference, Jackson Hole, Wyoming, August 1-5, 1995.
218. Licholai G, Awad IA: Neuroanatomy in the Middle Ages-- From the experiments of Galen to the *Canon of Medicine* of Avicenna. Presented to The New England Neurosurgical Society, Boston, Massachusetts, June 2, 1995.
219. Mayer P, Awad IA, Dickey P, Hopkins LN, Lansen T: Misdiagnosis of Symptomatic Intracranial Aneurysm-- Prevalence and Impact of Outcome. Presented to The New England Neurosurgical Society, Boston, Massachusetts, June 2, 1995.
220. Awad IA: Anterior circulation Aneurysms. Invited panelist (Luncheon Seminar). Annual Meeting of The Congress of Neurological Surgeons, San Francisco, California, October 13-20, 1995.

221. Awad IA: Assessing Outcome of Emerging Technology. Invited Presentation, Annual Meeting of The Congress of Neurological Surgeons, San Francisco, California, October 13-20, 1995.
222. Awad IA: Pathology and Lesion Biology. Invited Presentation, Special Symposium on Cavernous Malformations, Annual Meeting of The Congress of Neurological Surgeons, San Francisco, California, October 13-20, 1995.
223. Mayer P, Awad IA, Dickey P, Lansen T, Harbaugh R, Harbaugh K, Claus E, Hopkins LN: Misdiagnosis of Symptomatic Cerebral Aneurysms: prevalence and correlation with outcome at four institutions. Presented to the Annual Meeting of The Congress of Neurological Surgeons, San Francisco, California, October 13-20, 1995.
224. Gunel M, Awad IA, Batjer H, Giannotta S, Steinberg G, Anson J, Lifton RP: Molecular Genetics of Cerebral Cavernous Malformations: refined chromosomal localization and genetic dysequilibrium analysis. Presented to the Annual Meeting of The Congress of Neurological Surgeons, San Francisco, California, October 13-20, 1995.
225. Awad IA: Moderator, Surgical Forum Session on Neurological Surgery. Annual Clinical Congress, American College of Surgeons, New Orleans, Louisiana, October 25, 1995.
226. Awad IA: Human Cerebrovascular Malformations: The role of angiogenesis. Research Update in Neurobiology for Neurosurgeons (RUNN Course), Woods Hole, Massachusetts, October 28, 1995.
227. Awad IA: Management and Outcome of Giant Intracranial Aneurysms. Visiting Professor, New York University, Neurosurgery Grand Rounds, New York, New York, November 10, 1995.
228. Awad IA: From Natural History to Molecules: An integrative approach to vascular malformations of the brain. The Rasmussen Lecture, Montreal Neurological Institute, McGill University, Montreal, Quebec, Canada, December 15, 1995.
229. Awad IA: Science, Consensus, and the Quagmire of Clinical Decisions in Cerebrovascular Surgery. Invited presentation to the Annual Meeting of Joint Section on Cerebrovascular Surgery of the American Association of Neurological Surgeons and the Congress of Neurological Surgeons, San Antonio, Texas, January 23-25, 1996.
230. Awad IA: The Neurovascular Surgery Fellowship. Invited Expert Consultant at the Annual Meeting of the Joint Section on Cerebrovascular Surgery of the American Association of Neurological Surgeons and the Congress of Neurological Surgeons, San Antonio, Texas, January 23-25, 1996.
231. Awad IA, Skirgaudas M, Kim J, Criscuolo G: Expression of angiogenesis factors and selected structural matrix proteins in human intracranial aneurysms. Presented to the Annual Meeting of the Joint Section on Cerebrovascular Surgery of the American Association

of Neurological Surgeons and the Congress of Neurological Surgeons, San Antonio, Texas, January 23-25, 1996.

232. Mayer P, Awad IA, Dickey P, Lansen T, Harbaugh R, Harbaugh K, Claus E, Hopkins LN: Misdiagnosis of Symptomatic Cerebral Aneurysms: prevalence and correlation with outcome at four institutions. Presented to the Annual Meeting of the Joint Section on Cerebrovascular Surgery of the American Association of Neurological Surgeons and the Congress of Neurological Surgeons, San Antonio, Texas, January 23-25, 1996.
233. Chaloupka J, Putman C, Awad IA, Fayad P: The role of hypotensive challenge in therapeutic carotid occlusion; The Yale Experience. Presented to the Annual Meeting of the Joint Section on Cerebrovascular Surgery of the American Association of Neurological Surgeons and the Congress of Neurological Surgeons, San Antonio, Texas, January 23-25, 1996.
234. Putman C, Chaloupka J, Fulbright R, White R, Fayad P, Awad IA: Exceptional multiplicity of cerebral arteriovenous malformations in Osler-Weber-Rendu disease. Presented to the Annual Meeting of the Joint Section on Cerebrovascular Surgery of the American Association of Neurological Surgeons and the Congress of Neurological Surgeons, San Antonio, Texas, January 23-25, 1996.
235. Awad IA: The neurovascular multidisciplinary program in clinical and academic perspective. Visiting Professor, Neurosciences Grand Rounds, New York Medical College, Valhalla, New York, February 16, 1996.
236. Awad IA: Giant Aneurysms of the Anterior Circle of Willis (Invited Lecture); Session on Consensus Conclusions (Co-Moderator). International Symposium on Microsurgical versus Endovascular Treatment of Intracranial Aneurysms, Houston, Texas, March 27-29, 1996.
237. Awad IA: Perspectives on Neurovascular Surgery (and invited lectures on aneurysms and vascular malformations). Visiting Professor, 17th Regional Postgraduate Symposium of the Brazillian Neurosurgical Society. Riberao Preto, San Paulo, Brazil, April 12-14, 1996.
238. Awad IA: Dural Arteriovenous Malformations. Invited Breakfast Seminar. American Association of Neurological Surgeons, Minneapolis, Minnesota, April 27-May 2, 1996.
239. Gunel M, Awad IA, Feinberg K, Steinberg G, Lifton RP: Single mutation from a common ancestor is responsible for cavernous malformations in Mexican Americans of Hispanic descent. Presented to the Annual Meeting of the American Association of Neurological Surgeons, Minneapolis, Minnesota, April 27-May 2, 1996.
240. Yamada S, Awad IA, Iacono RP, Lonser R, Mandybur GT: Enlarging arteriovenous malformations. Presented to the Annual Meeting of the American Association of Neurological Surgeons, Minneapolis, Minnesota, April 27-May 2, 1996.

241. Putman CM, Chaloupka JC, Roth TC, Awad IA: Endovascular therapeutic approaches to difficult aneurysms of the superior cerebellar artery. Presented to the Annual Meeting of the American Association of Neurological Surgeons, Minneapolis, Minnesota, April 27-May 2, 1996.
242. Putman CM, Chaloupka JC, Fulbright RK, Awad IA, White RI: Exceptional multiplicity of cerebral arteriovenous malformations associated with Hereditary Hemorrhagic Telangiectasia. Presented to the Annual Meeting of the American Association of Neurological Surgeons, Minneapolis, Minnesota, April 27-May 2, 1996.
243. Chaloupka JC, Dare AO, Putman CM, Roth TC, Fayad PB, Awad IA: Delayed hemodynamic ischemia following therapeutic carotid occlusion: A failure of the hypotensive challenge with balloon test occlusion to predict collateral insufficiency. Presented to the Annual Meeting of the American Association of Neurological Surgeons, Minneapolis, Minnesota, April 27-May 2, 1996.
244. Awad IA: Future Horizons in Neurovascular Surgery. Presented as the American University of Beirut Alumni Professor, Middle East Medical Assembly, Beirut, Lebanon, May 10, 1996.
245. Awad IA: Epilepsy Surgery and Structural Lesions of the Brain. Epilepsy Symposium Lecture, Middle East Medical Assembly, Beirut, Lebanon, May 10, 1996.
246. Awad IA: Epilepsy and Vascular Malformations. Invited Lecture and Session Moderator, Structural Etiologies of Epilepsy. Cleveland Clinic International Symposium on Epilepsy: Etiologies and Prevention, Cleveland, Ohio, May 12, 1996.
247. Awad IA: Critical Care Management of Hemorrhagic Stroke. Invited Lecture to the Connecticut Critical Care Society, New Britain, Connecticut, June 12, 1996.
248. Awad IA: Pathobiology of cerebral cavernous malformations: An integrative paradigm. Presented to the Annual Meeting of the American Academy of Neurological Surgeons, Sulphur Springs, West Virginia, September 19, 1996.
249. Awad IA: Cerebrovascular crises in pregnancy. Invited presentation (Luncheon Seminar) to the Annual Meeting of the Congress of Neurological Surgeons, Montréal, Canada, September 30, 1996.
250. Awad IA: Outcomes Assessment in Neurosurgery: A Historical Perspective. Invited Lecture at the Annual Meeting of the Congress of Neurological Surgeons, Montréal, Canada, October 2, 1996.
251. Wecht DA, Putman CM, Chaloupka JC, Roth TC, White RI, Fayad P, Awad IA. Neurosurgical management of Hereditary Hemorrhagic Telangiectasia. Presented to the Annual Meeting of the Congress of Neurological Surgeons, Montréal, Canada, September 28-October 3, 1996.

252. Bartolomei J, Wecht DA, Sun P, Awad IA. Visual field deficit and occipital lobe vascular malformations. Presented to the Annual Meeting of the Congress of Neurological Surgeons, Montréal, Canada, September 28-October 3, 1996.
253. Awad IA: Lectures on Intracranial Giant Aneurysms, and Future Horizons in Neurovascular Surgery. The Harry Wilkins Visiting Professor at the University of Oklahoma School of Medicine, October 24-26, 1996.
254. Awad IA: Angiogenesis and cerebrovascular malformations. Research Update in Neurobiology for Neurosurgeons (RUNN Course), Woods Hole, Massachusetts, November 5, 1996.
255. Awad IA: Progress in reduction of misdiagnosis of subarachnoid hemorrhage. Invited presentation to the 2nd Annual Meeting of The Joint Section on Cerebrovascular Surgery of the American Association of Neurological Surgeons and the Congress of Neurological Surgeons, Anaheim, California, February 4-6, 1997.
256. Awad IA: Cavernous Malformations. Invited Moderator, Luncheon Discussion Group, 2nd Annual Meeting of The Joint Section on Cerebrovascular Surgery of the American Association of Neurological Surgeons and the Congress of Neurological Surgeons, Anaheim, California, February 4-6, 1997.
257. Rosenow JM, Sarrel PM, Awad IA, Brass LM. Acute vasoactive effects of estradiol on cerebral vasospasm in women with subarachnoid hemorrhage. Presented to the 22nd International Conference on Stroke and Cerebral Circulation, Anaheim, California, February 6-8, 1997.
258. Kennedy JD, Bartolomei J, Wecht DA, Sun P, Awad IA. Occipital lobe vascular malformations: Prognosis of visual field deficit after therapy. Presented to the 22nd International Conference on Stroke and Cerebral Circulation, Anaheim, California, February 6-8, 1997.
259. Bartolomei J, Wecht DA, Putman C, Chaloupka JC, Roth TC, Awad IA. Management outcome of dural arteriovenous malformations (DAVMs) at a single institution. Presented to the 22nd International Conference on Stroke and Cerebral Circulation, Anaheim, California, February 6-8, 1997.
260. Wecht DA, Putman C, Chaloupka JC, Roth TC, White RI, Fayad P, Awad IA. Neurosurgical management of Hereditary Hemorrhagic Telangiectasia. Presented to the 22nd International Conference on Stroke and Cerebral Circulation, Anaheim, California, February 6-8, 1997.
261. Awad IA. Future horizons in Neurovascular Surgery. Visiting Professor, Niteroi Regional Hospital, Niteroi, Rio de Janeiro, Brazil, February 20, 1997.

262. Awad IA. Giant Intracranial Aneurysms. Visiting Professor and Consultant for Neurosurgical Development, The Nasser Institute, Ministry of Health and Population, Cairo, Egypt, March 8, 1997.
263. Awad IA. Natural History of Cavernous Malformations. Plenary Session Invited Discussant at the Annual Meeting of the American Association of Neurological Surgeons, Denver, Colorado, April 14, 1997.
264. Awad IA. The Integrated Cerebrovascular Center. Invited presentation to the Annual Meeting of the American Association of Neurological Surgeons, Denver, Colorado, April 15, 1997.
265. Awad IA. Cerebrovascular Consultant's Corner. Invited presentation to the Annual Meeting of the American Association of Neurological Surgeons, Denver, Colorado, April 16, 1997.
266. Awad IA. Science at the Bedside: Evidence-Based Guidelines in Cerebrovascular Surgery. Invited presentation to the Annual Meeting of the American Association of Neurological Surgeons, Denver, Colorado, April 16, 1997.
267. Wecht DA, Awad IA, Kim JH, Pikus H, Harbaugh RE. Occult vascular malformations: Association of angiogenic and proliferative activity with clinical behavior. Presented to the Annual Meeting of the American Association of Neurological Surgeons, Denver, Colorado, April 16, 1997.
268. Kennedy JD, Bartolomei J, Wecht DA, Sun P, Awad IA. Occipital lobe vascular malformations: Prognosis of visual field deficit after therapy. Presented to the Annual Meeting of the American Association of Neurological Surgeons, Denver, Colorado, April 14-16, 1997.
269. Wecht DA, Putman C, Chaloupka JC, Roth TC, White RI, Fayad P, Awad IA.
Neurosurgical
270. management of Hereditary Hemorrhagic Telangiectasia. Presented to the Annual Meeting of the American Association of Neurological Surgeons, Denver, Colorado, April 14-16, 1997.
271. Bartolomei J, Wecht DA, Putman C, Chaloupka JC, Roth TC, Awad IA. Management outcome of dural arteriovenous malformations (DAVMs) at a single institution. Presented to the Annual Meeting of the American Association of Neurological Surgeons, Denver, Colorado, April 14-16, 1997.
272. Awad IA. Course Co-Chairman; lecture on Perioperative Management; and Hands on Instruction. Professional Development Course on Extracranial Arterial Reconstruction, American Association of Neurological Surgeons. The Annenberg Center, Palm Desert, California, May 29- June 1, 1997.
273. Awad IA. Biology of Cerebral Cavernous Malformations. Visiting Professor Lecture. University of California, Irvine, California, June 26, 1997.

274. Spencer D, Awad IA. Functional Imaging in Vascular Malformations of the Brain. Invited lecture. World Congress of Neurological Surgery, Amsterdam, The Netherlands, July 8, 1997.
275. Awad IA. Congress President; lecture on Surgical Perspectives on Endovascular Therapy for Neurovascular Disease; Moderator, Skull Base and Neurovascular sessions. Congress of the World Association of Lebanese Neurosurgeons, Beirut, Lebanon, July 11-14, 1997.
276. Awad IA. Vascular Malformations of the Brain: From Phenotypic Riddles to Questions of Genotype. Annual Meeting of the American Academy of Neurological Surgery. Banff, Alberta, Canada, September 11-14, 1997.
277. Awad IA. Rolandic and Pericentral Arteriovenous Malformations. Invited Luncheon Seminar Panelist. Annual Meeting of the Congress of Neurological Surgeons, New Orleans, Louisiana, September 29-October 2, 1997.
278. Awad IA. Protocols and Critical Pathways for Stroke Management. Invited Plenary Lecture. Annual Meeting of the Congress of Neurological Surgeons, New Orleans, Louisiana, September 29- October 2, 1997.
279. Schlosser M, McCarthy G, Spencer D, Piepmeier J, Awad IA. Speech Mapping by Functional Magnetic Resonance in Neurosurgical Patients. Presented to the Annual Meeting of the Congress of Neurological Surgeons, New Orleans, Louisiana, September 29- October 2, 1997.
280. Awad IA. Moderator, Multidisciplinary Panel on Diagnostic Evaluation of Carotid Disease. Annual Clinical Congress of the American College of Surgeons. Chicago, Illinois, October 10-14, 1997.
281. Awad IA. Methodology of Assessment of Surgical Outcomes (Generic and Disease Specific Paradigms). Invited Lecture. Annual Clinical Congress of the American College of Surgeons. Chicago, Illinois, October 10-14, 1997.
282. Awad IA. Moderator. Neurosurgical Forum Session. Annual Clinical Congress of the American College of Surgeons. Chicago, Illinois, October 10-14, 1997.
283. Awad IA. Vascular Malformations of the Brain. Invited Lecture and Workshop Moderator. Annual Meeting of the Hereditary Hemorrhagic Telangiectasia Foundation, Atlanta, Georgia, October 25-26, 1997.
284. Awad IA. Cellular and Molecular Biology of Human Cerebrovascular Malformations. Faculty Lecture. Research Update in Neurobiology for Neurosurgeons (RUNN Course), Woods Hole, Massachusetts, November 10, 1997.

285. Awad IA. Outcome Assessment in Neurological Surgery. Visiting Professor Lecture, Kasr-El-Eyni Hospital, University of Cairo, Cairo, Egypt, December 16, 1998.
286. Awad IA. Management of Hemorrhagic Stroke. A special educational lecture for multimedia physician education. Nasser Institute, Ministry of Health and Population, Cairo, Egypt, December 18, 1997.
287. Awad IA. Giant Intracranial Aneurysms. Visiting Professor, Washington Academy of Neurological Surgery, Washington, D.C., January 9, 1998.
288. Awad IA. Invited Lectures on “Biology of Cerebrovascular Malformations”, “Horizons in Neurovascular surgery”, and “Case Discussions”. Neurovascular Symposium, Washington Hospital Center and George Washington University School of Medicine, Washington, D.C., January 10, 1998.
289. Awad IA. Science and Cerebrovascular Surgery. Invited Lecture, Third Annual Meeting of the Section on Cerebrovascular Surgery of the American Association of Neurological Surgeons and The Congress of Neurological Surgeons, Orlando, Florida, February 2, 1998.
290. Awad IA. Moderator of Luncheon Discussion Group on “Cerebral Cavernous Malformations”, Third Annual Meeting of the Section on Cerebrovascular Surgery of the American Association of Neurological Surgeons and The Congress of Neurological Surgeons, Orlando, Florida, February 2, 1998.
291. Awad IA. Panelist, Luncheon Discussion Group on “Dural Arteriovenous Malformations”, Third Annual Meeting of the Section on Cerebrovascular Surgery of the American Association of Neurological Surgeons and The Congress of Neurological Surgeons, Orlando, Florida, February 3, 1998.
292. Abdulrauf SI, Keynar M, Awad IA. Comparison of clinical profile of cavernous malformations of the brain with and without associate venous malformation. Third Annual Meeting of the Section on Cerebrovascular Surgery of the American Association of Neurological Surgeons and The Congress of Neurological Surgeons, Orlando, Florida, February 4, 1998.
293. Awad IA. Symposium Chair, “Stereotactic Surgery for Cerebral Hemorrhage”, 23d International Joint Conference on Stroke and Cerebral Circulation, American Heart Association, Orlando, Florida, February 5, 1998.
294. Awad IA. Invited Lectures on “Giant Intracranial Aneurysms” and “Biology of Vascular Malformations of the Brain”. Visiting Professor, University of Montréal and Notre Dame Hospital, Montréal, Québec, Canada, April 17-18, 1998.
295. Awad IA. Practical Course Faculty, “Carotid Artery Surgery”. Annual Meeting of the American Association of Neurological Surgeons, Philadelphia, Pennsylvania, April 26, 1998.

296. Awad IA. Luncheon seminar Faculty, “Establishing Stroke Centers and Teams”. Annual Meeting of the American Association of Neurological Surgeons, Philadelphia, Pennsylvania, April 27, 1998.
297. Awad IA. Luncheon Seminar Faculty, “How I Do It: Carotid Surgery”. Annual Meeting of the American Association of Neurological Surgeons, Philadelphia, Pennsylvania, April 29, 1998.
298. Awad IA. Horizons in Neurovascular surgery. Invited lecture, Connecticut Chapter of the American Association of Operating Room Nurses, New Britain, Connecticut, May 2, 1998.
299. Awad IA. Biology of Human Cerebral Vascular Malformations. Visiting Professor, Allegheny General Hospital and the Allegheny Health Sciences University, Pittsburgh, Pennsylvania, May 6, 1998.
300. Awad IA. Invited lectures on “Giant Intracranial Aneurysms” and “Dural Arteriovenous Malformations”. New York University Cerebrovascular Symposium, New York, New York, May 7-8, 1998.
301. Awad IA. Invited lectures on “Hemorrhagic Stroke Management”, “The Multidisciplinary Cerebrovascular Center”, “Neurological Critical Care”, and “Carotid Artery Surgery”. Visiting Professor, University of Santiago School of Medicine and the Clinica Allemana, Santiago, Chile, May 14-15, 1998.
302. Awad IA. Phenotype-genotype correlations in Human Cerebrovascular Malformations. Massachusetts General Hospital-Harvard Annual Course on Cerebrovascular Malformations and Aneurysms, Boston, Massachusetts, May 29, 1998.
303. Awad IA. Therapeutic Carotid Occlusion: Contemporary Management Paradigms. Invited Lecture at the 48th Annual Meeting of the Congress of Neurological Surgeons, Seattle, Washington, October 7, 1998.
304. Awad IA. Career Options and Tracks in Neurosurgery. Invited Luncheon Seminar at the 48th Annual Meeting of the Congress of Neurological Surgeons, Seattle, Washington, October 7, 1998.
305. Baev N and Awad IA. Isolation and phenotypic characterization of cultured endothelial cells from human cerebral cavernous malformations. Presented at the 48th Annual Meeting of the Congress of Neurological Surgeons, Seattle, Washington, October 5, 1998.
306. Wong J, Kim J, Awad IA. Ultrastructural morphology of human cerebral vascular malformations: An electron microscopic study of lesion endothelial cells. Presented at the 48th Annual Meeting of the Congress of Neurological Surgeons, Seattle, Washington, October 5, 1998.

307. Chiang V, Claus E, Chaloupka J, and Awad IA. Toward more rational outcome prediction in high grade patients with subarachnoid hemorrhage. Accepted for oral presentation at the Post-Convention Satellite Symposium, 48th Annual Meeting of the Congress of Neurological Surgeons, Post-meeting Symposium, Semi-Ah-Moo, Washington, October 10, 1998.
308. Awad IA. Biology of Human Cerebral Vascular Malformations- Cell Biology and Phenotype-Genotype Correlations. Research Update in Neurobiology for Neurosurgeons (RUNN Course), Woods Hole, Massachusetts, October 24, 1998.
309. Awad IA. What Surgeons Must Know About Collagen Diseases. Moderator of Multidisciplinary Course, Annual Clinical Congress of the American College of Surgeons, Orlando, Florida, October 27, 1998.
310. Baev N, Wong J, Zao G, Kim, J, Gunel M, Awad IA. Endothelial cell phenotype in human cerebral cavernous malformations. Presented to the 60th Annual Meeting of the American Academy of Neurosurgery, Santa Barbara, California, November 6, 1998.
311. Awad IA. Dural Arteriovenous malformations. Invited panelist. Luncheon Seminar at the Annual Joint meeting of the Cerebrovascular Section of the American Association of Neurological Surgeons and Congress of Neurological Surgeons and The American Society of Interventional and Therapeutic Neuroradiology. Nashville, Tennessee, February 2, 1999.
312. Awad IA. Cavernous Malformations. Moderator. Luncheon Seminar at the Annual Joint meeting of the Cerebrovascular Section of the American Association of Neurological Surgeons and Congress of Neurological Surgeons and The American Society of Interventional and Therapeutic Neuroradiology. Nashville, Tennessee, February 3, 1999.
313. Sturaitis M, Chaloupka J, Awad IA. Impact of GDC on Multidisciplinary Management Outcome of Intracranial Aneurysms at a Single Institution. Presented to the Annual Joint meeting of the Cerebrovascular Section of the American Association of Neurological Surgeons and Congress of Neurological Surgeons and The American Society of Interventional and Therapeutic Neuroradiology. Nashville, Tennessee, February 2, 1999.
314. Awad IA. Lectures on “Therapeutic Carotid Occlusion” and “Biology of Human Cerebral Vascular Malformations”. Visiting Professor to the Brigham and Women’s and Childrens Hospitals, Harvard Medical School, Boston Massachusetts, March 3-4, 1999.
315. Awad IA. Course Director. Carotid Artery Surgery. Neuroanatomy Laboratories, St. Louis University, St. Louis, Missouri, March 19-20, 1999.
316. Awad IA. Lectures on “Carotid Surgery Technique” and “Phenotype-Genotype Correlations in Human Cerebral Vascular Malformations”. The 4th Tindall Distinguished Visiting Professor, Emory University School of Medicine, Atlanta, Georgia, April 14-17, 1999.

317. Gunel M, et al., Awad IA, and Lifton RP. Positional cloning of the CCM1 gene and identification of two new loci for cavernous malformation, CCM2 and CCM3, by multilocus linkage. Presented to the Annual Meeting of the American Association of Neurological Surgeons, New Orleans, Louisiana, April 26-28, 1999.
318. Awad IA. Invited Visiting Professor (lectures on “Carotid endarterectomy technique”, “Future horizons in neurovascular surgery” and “Dural arteriovenous malformations”). Turkish Neurosurgical Society, Istanbul, Turkey, May 14-19, 1999.
319. Awad IA. Honored Alumnus. Lecture on “Therapeutic Carotid Occlusion Revisited”, and judge of resident research presentations, Annual Neuroscience Symposium, The Cleveland Clinic Foundation , May 20, 1999.
320. Awad IA. Lectures on “Biology and Genetics of Intracranial Aneurysms” and “Genotype Phenotype Correlations in Cerebrovascular Malformations”. Massachusetts General Hospital-Harvard Annual Course on Cerebrovascular Disease, Boston, Massachusetts, June 1-3, 1999.
321. Awad IA. Invited lectures on “Carotid Surgery – How I do it”, “Impact of GDC on Multidisciplinary Outcome of Aneurysm Management” and “Spinal Vascular Malformations”. Second Homecoming Meeting of The World Association of Lebanese Neurosurgeons, Beirut, Lebanon, June 20-24, 1999.
322. Awad IA. Lectures on “Giant Intracranial Aneurysms” and “Biology of Cerebrovascular Malformations”. Visiting Professor, University of Pittsburgh School of Medicine, Pittsburgh, Pennsylvania, September 15-17, 1999.
323. Awad IA. Lectures on “Philosophy of Science” and “Career Tracks in Academic Neurosurgery”. Review and Update in Neurobiology for Neurosurgeons (RUNN Course), Woods Hole, Massachusetts, October 9-16, 1999.
324. Awad IA. Moderator, “Controversies in Management of Brainstem Cavernous Malformations”. The 49th Annual Meeting of the Congress of Neurological Surgeons, Boston, Massachusetts, October 29-November 1, 1999.
325. Awad IA. Moderator and Panelist, “Management of Intracerebral Hematomas”. Luncheon Seminar at The 49th Annual Meeting of the Congress of Neurological Surgeons, Boston, Massachusetts, October 29-November 1, 1999.
326. Awad IA. Panelist, “Career Tracks in Neurosurgery”. Luncheon Seminar at The 49th Annual Meeting of the Congress of Neurological Surgeons, Boston Massachusetts, October 29-November 1, 1999.
327. Awad IA. Invited Lecture, “Neurovascular Decision Making: Which Aneurysms Should be Referred for Endovascular Therapy?” The 49th Annual Meeting of the Congress of Neurological Surgeons, Boston, Massachusetts, October 29-November 1, 1999.

328. Wong J, Montes J, Fayad PB, Awad IA. "Stereotactic CT Guided Aspiration and Thrombolysis of Intracerebral Hematoma: Protocol and Preliminary Experience". Presented to The 49th Annual Meeting of the Congress of Neurological Surgeons, Boston, Massachusetts, October 29-November 1, 1999.
329. Sturaitis M, Rinne J, Lin Z, Awad IA. "Does ASA Physical Status Predict Outcome and Resource Utilization in Treatment of Intracranial Aneurysms?" Presented to The 49th Annual Meeting of the Congress of Neurological Surgeons, Boston, Massachusetts, October 29-November 1, 1999.
330. Moussa R, Rinne J, Kernan W, Brass LM, Awad IA. "Etiologic Spectrum of Hemorrhagic Stroke in Young Patients: A Cohort Analysis in a Population Based Study". Presented to The 49th Annual Meeting of the Congress of Neurological Surgeons, Boston, Massachusetts, October 29-November 1, 1999.
331. Awad IA. "New Neurosurgical Perspectives on Spontaneous Intracerebral Hemorrhage". Presented to the 61st Annual Meeting of the American Academy of Neurological Surgery, Amelia Island, Florida, November 10-14, 1999.
332. Awad IA. "Biology of Vascular Malformations of the Brain". Visiting Professor, University of Colorado School of Medicine, Denver, Colorado, March 28-30, 2000.
333. Awad IA. "Embryology and Genetics of Cerebrovascular Malformations". Invited Lecture, Annual Joint Meeting of the Cerebrovascular Section of the AANS and CNS and The American Society of Therapeutic and Interventional Neuroradiology, New Orleans, Louisiana, February 6-9, 2000.
334. Awad IA. Prevention of Complications and Perioperative Management. Special Course on "Carotid Artery Surgery", the Annual Joint Meeting of the Cerebrovascular Section of the AANS and CNS and The American Society of Therapeutic and Interventional Neuroradiology, New Orleans, Louisiana, February 6-9, 2000.
335. Awad IA. Moderator, Luncheon Seminars on "Cerebral Cavernous Malformations" and "Dural Arteriovenous Malformations". Annual Joint Meeting of the Cerebrovascular Section of the AANS and CNS and The American Society of Therapeutic and Interventional Neuroradiology, New Orleans, Louisiana, February 6-9, 2000.
336. Ng PY, Huddle D, Gunel M, Awad IA. Endovascular Adjunct in Microsurgical Treatment of Paraclinoid Aneurysms. Presented to the Annual Joint Meeting of the Cerebrovascular Section of the AANS and CNS and The American Society of Therapeutic and Interventional Neuroradiology, New Orleans, Louisiana, February 6-9, 2000.
337. Awad IA. "Thrombolysis and Aspiration of Cerebral Hematoma". Invited Lecture, International Conference on Stroke and the Cerebral Circulation, American Heart Association, New Orleans, Louisiana, February 10-13, 2000.

338. Awad IA. Visiting Professor and Program Consultant. Neurosurgical Program, The Royal Armed Forces Hospital, Riyadh, Kingdom of Saudi Arabia, March 4-8, 2000.
339. Awad IA. “Surgical Treatment of Intracranial Aneurysms”. Invited Lecture and Panel Moderator. The Salpetriere Hospital Neurosurgical Symposium, Paris, France, March 18, 2000.
340. Awad IA. “Current Treatment Options for Asymptomatic Vascular Lesions”. Breakfast Seminar (Moderator). Annual Meeting of the American Association of Neurological Surgeons, San Francisco, California, April 10, 2000.
341. Awad IA. “Cavernous Malformations”. Breakfast Seminar (Moderator). Annual Meeting of the American Association of Neurological Surgeons, San Francisco, California, April 12, 2000.
342. Awad IA. Invited Visiting Professor. Lectures on “Technology Assessment” and “Molecular Biology of Cerebrovascular Disease”. The Ninth Annual Conference on Neurosurgical Techniques and Tools, Nagoya, Japan, April 21-22, 2000
343. Awad IA. Royal Australasian College of Surgeons Visiting Professor. Six lectures and seminars on cerebrovascular disease and neurosurgical education at RACS Meeting and Neurosurgical Units in Melbourne, Brisbane and Sydney, Australia, May 8-20, 2000.
344. Awad IA. “The Future of Neurosurgery”. Visiting Professor and Special Seminar. American University of Beirut and the Lebanese Neurosurgical Society, Beirut, Lebanon, July 20, 2000.
345. Awad IA. What Clinical Problems will be solved in 2010-- Brain Surgery. Invited presentation to the 50th Annual meeting of the Congress of Neurological Surgeons, San Antonio, Texas, September 23-28, 2000.
346. Awad IA. Neurosurgical Critical Care. Course Co-Director and presentation on Protocols and Critical Pathways in the Neuro-ICU. Special Course at the 50th Annual meeting of the Congress of Neurological Surgeons, San Antonio, Texas, September 23 -28, 2000.
347. Carpentier AC, Constable RT, Schlosser MJ, Piepmeier JM, Spencer DD and Awad IA. Patterns of functional MR activation: A classification of plasticity. Presented to the 50th Annual meeting of the Congress of Neurological Surgeons, San Antonio, Texas, September 23 -28, 2000.
348. Awad IA. Chairman’s Address. “Ideas and Ideals of Progress in Cerebrovascular Surgery”. Presented to the Annual Joint Meeting of the Cerebrovascular Section of the AANS and CNS and The American Society of Therapeutic and Interventional Neuroradiology, Waikoloa Village, Hawaii, February 9-12, 2001.
349. Awad IA and Chiang V. Ethical issues, levels of care and end of life decisions in the neuro-ICU. Special Course Neuro-critical Care. Presented to the Annual Joint Meeting of the

Cerebrovascular Section of the AANS and CNS and The American Society of Therapeutic and Interventional Neuroradiology, Waikoloa Village, Hawaii, February 9-12, 2001.

350. Awad IA. Minimizing perioperative complications. Special Course on Extracranial Carotid Reconstruction. Awad IA. Management of dural AVMs. Moderator of Luncheon Seminar. Annual Joint Meeting of the Cerebrovascular Section of the AANS and CNS and The American Society of Therapeutic and Interventional Neuroradiology, Waikoloa Village, Hawaii, February 9-12, 2001.
351. Awad IA. The Future of Neurosurgery at the University of Colorado. 14th Annual Course "Neurosurgery in the Rockies", Vail, Colorado, March 4-8, 2001.
352. Awad IA. Coiling versus Clipping of Intracranial Aneurysms. Special Lecture at the 30th Annual Meeting of the Japanese Society on Surgery for Cerebral Stroke, Osaka, Japan, March 14-15, 2001.
353. Awad IA. Pathobiology of Human Cerebral Vascular Malformations. Visiting Professor, Chicago Institute of Neurosurgery and Neuroscience, Rush University, Chicago, Illinois, April 5, 2001.
354. Awad IA. Protocols and Critical Pathways in the Neuro-ICU. Practical Clinic on Cerebrovascular Critical Care. Presented at the 70th Annual Meeting of the American Association of Neurological Surgeons, Toronto, Ontario, Canada, April 21-26, 2001.
355. Awad IA. Moderator, Breakfast Seminar, Treatment of Cavernous Malformations. Presented at the 70th Annual Meeting of the American Association of Neurological Surgeons, Toronto, Ontario, Canada, April 21-26, 2001.
356. Awad IA. Moderator, Breakfast Seminar, Current Options and Guidelines in the Management of the Asymptomatic Vascular Lesion. Presented at the 70th Annual Meeting of the American Association of Neurological Surgeons, Toronto, Ontario, Canada, April 21-26, 2001.
357. Awad IA. Invited Discussant, BNI experience with EC-IC Bypass Surgery from 1995 to 1999: Evolution of Technical Factors Associated with Outcome. Presented at the 70th Annual Meeting of the American Association of Neurological Surgeons, Toronto, Ontario, Canada, April 21-26, 2001.
358. Awad IA. Cerebrovascular Occlusive Disease. Invited lecture in Special Symposium on Cerebrovascular Surgery: Reflections, Appraisal, Predictions. Presented at the 70th Annual Meeting of the American Association of Neurological Surgeons, Toronto, Ontario, Canada, April 21-26, 2001.
359. Gunel M, Diluna M, Shin D, et al., Awad IA, Lifton R. Molecular biology and genetics of Krit1, the gene mutated in cerebral cavernous malformations 1. Presented at the 70th Annual Meeting of the American Association of Neurological Surgeons, Toronto, Ontario, Canada, April 21-26, 2001.

360. Awad IA. Invited lectures on “Novel Perspectives on Intracerebral Hemorrhage” and “Endovascular Versus Surgical Treatment of Intracranial aneurysms”. Presented to the 36th Middle East Medical Assembly, American university of Beirut, Beirut, Lebanon, May 10-13, 2001.
361. Awad IA. Invited special lecture on “Molecular biology of Vascular Malformations of the Brain”. Presented to the Japanese Congress of Neurological Surgeons, Yamagata, Japan, May 18-20, 2001.
362. Awad IA. Presidential Address “Ode to Meaning and Relevance”. Presented to the 51st Annual Meeting of the Congress of Neurological Surgeons, San Diego, California, October 1, 2001.
363. Awad IA. Giant Intracranial Aneurysms. Honored Guest Presentation to the Reunion of the Société de Neurochirurgie de Langue Française, Paris, France, November 25-28, 2001.
364. Awad IA. Carotid Endarterectomy: “Indications and Decision Making Process” and “Techniques of Microsurgery and Patching”. Invited Faculty to the Cerebral Revascularization Course, Microsurgery and Anatomy Laboratory, Saint Louis University, Saint Louis, Missouri, November 30-December 2, 2001.
365. Awad IA. “Perspectives on Unity in Surgeons, San Fransisco, California, January 19, 2002.
366. Awad IA. “Giant intracranial aneurysms: What treatment for what lesion” Visiting Professor, Department of Neurosurgery, Thomas Jefferson University School of Medicine, Philadelphia, Pennsylvania, January 27, 2002.
367. Awad IA. Co-Director, Practical Course on “Neurovascular Critical Care”. Invited Lecture “Neuro- Critical Care Program Development”. Moderator Luncheon Seminar on Neurovascular and Critical Care documentation and billing. Invited Plenary Lecture on “Unruptured Intracranial Aneurysms: Surgical Perspective”. Annual Joint Meeting of the Cerebrovascular Section of the AANS and CNS and The American Society of Therapeutic and Interventional Neuroradiology, Dallas, Texas, February 4-6, 2002.
368. Awad IA. Invited Lectures on “Dural Arteriovenous Malformations” (Cerebrovascular Practical Moderator of Breakfast Seminars on “Asymptomatic Vascular Lesions”, and “Cerebral Cavernous Malformations”. Special Lecture “Unruptured Intracranial Aneurysms: Decisions to treat in light of ISUIA Study”. Annual Meeting American Association of Neurological Surgeons, Chicago, Illinois, April 6-11, 2002.
369. Awad IA. “Giant Intracranial Aneurysms”. Twenty-Second J. Jay Keegan Memorial Lectureship, University of Nebraska School of Medicine, Omaha, Nebraska, May 2, 2002.

370. Awad IA. Moderator, Luncheon Seminars on “Unruptured Intracranial Aneurysms” and “Cerebral Cavemous Malformations”, Annual Meeting of the Congress of Neurological Surgeons, Philadelphia, Pennsylvania, September 21-26, 2002.
371. Awad IA. Honored Guest, Lectures on “General Management Strategies of Subarachnoid hemorrhage” and “Giant Intracranial Aneurysms”, Cerebrovascular Therapy Symposium, Neurosurgical Societies of Venezuela and Columbia, Caracas, Venezuela, October 1, 2002, and Bogota, Columbia, October 3, 2002.
372. Awad IA. Differential gene expression in human cerebral vascular malformations. Presented to the Annual Meeting of the American Academy of Neurological Surgery, Scottsdale, Arizona, October 16-19, 2002.
373. Awad IA. Moderator, Breakfast Seminar on “Dural Arteriovenous Malformations”, Annual Meeting of the American Association of Neurological Surgeons, San Diego, California, April 27-29, 2003.
374. Awad IA. Invited Lectures, Faculty Practical Courses on “American-Japanese Experts Symposium” , “Update on Cerebrovascular surgery”, and “Cerebrovascular Critical Care”, Annual Meeting of the American Association of Neurological Surgeons, San Diego, California, April 27-29, 2003.
375. Awad IA. “Management of Hemorrhagic Stroke”. Visiting Professor, Conference on Stroke and Cerebrovascular Disease, University of Nebraska Medical Center, Omaha, Nebraska, May 9, 2003.
376. Awad IA. “Giant Intracranial Aneurysms: What Treatment for What Lesion”. Visiting Professor, Medical College of South Carolina, Charleston, South Carolina, June 5, 2003.
377. Awad IA. “Biology of Human Cerebral Vascular Malformations”. Neurology and Neurosurgery Grand Rounds, Visiting Professor, Stanford University School of Medicine, Palo Alto, California, September 12, 2003.
378. Awad IA. “Hand-on” faculty on “Surgical Technique in Carotid Endarterectomy”, and video technique instruction. Microvascular Surgery Techniques. Practical Anatomy Workshop, Saint Louis University, Saint Louis, Missouri, October 9-11, 2003.
379. Awad IA. Invited Lectures, Faculty Practical Courses on “Paradigms of International Neurosurgical Development” and “Organization and Protocols in Neuro-Intensive Care Units”. Annual Meeting of the Congress of Neurological Surgeons, Denver Colorado, October 18-24, 2003.
380. Awad IA. Plenary Lecture “The Story of Genes in Human Cerebral Vascular Malformations”. Annual Meeting of the Congress of Neurological Surgeons, Denver Colorado, October 18-24, 2003.

381. Awad IA. Invited Lecture, “Anatomy of the Paraclinoid Region”, Cerebrovascular Section Session, Annual Meeting of the Congress of Neurological Surgeons, Denver Colorado, October 18-24, 2003.
382. Awad IA. Course Director lectures on “Philosophy of Science” and “Academic Career Tracks and Grantsmanship”. Research Update in Neuroscience for Neurosurgeons (RUNN) Course, Woods Hole, Massachusetts, November 9-15, 2003.
383. Awad IA. Invited Panel Co-chair, “Research Methodologies and Outcome”, National Institute for Neurological Disorders and Stroke Consensus Conference on Hemorrhagic Stroke, National Institutes of Health, Bethesda, Maryland, November 17, 2003.
384. Awad IA. Lecture on “Molecular Genetics of Human Cerebral Vascular Malformations”. Visiting Professor, University of Toronto and the Toronto General Hospital, Toronto, Ontario, Canada, December 18, 2003.
385. Awad IA. Invited faculty “Special Course: Critical Care Management” (Organizational protocols for neurovascular critical care), and Moderator “Luncheon Seminar: Management of Dural Arteriovenous Malformations”. Annual Joint Meeting of the Cerebrovascular Section of the AANS and CNS and The American Society of Therapeutic and Interventional Neuroradiology, San Diego, California, February 1-4, 2004.
386. Awad IA. Visiting Professor lectures on “Intracerebral Hemorrhage” and “Management Decisions for Cerebral Aneurysm”. Neurovascular Update Symposium, West Jefferson Medical Center and Cullichia Clinic, New Orleans, Louisiana, May 14, 2004.
387. Awad IA. Honored International Guest and invited lectures on “Giant Intracranial Aneurysms”, “Dural Arteriovenous Malformations”, and “Biology of Cerebrovascular Malformations”. Annual Meeting of the Society of Neurosurgeons of Rio de Janeiro and the Federal University of Rio de Janeiro, Rio de Janeiro, Brazil, June 18-20, 2004.
388. Awad IA. Lecture on “Unruptured Intracranial Aneurysms: Science, Controversy and the Surgical Art”. Third Homecoming Congress of the World Association of Neurological Surgeons, Beirut, Lebanon, June 28-30, 2004.
389. Awad IA. Moderator of Luncheon Seminar “Posterior Circulation Aneurysms”. Annual Meeting of the Congress of Neurological Surgeons, San Francisco, California, October 16-21, 2004.
390. Awad IA. Course Co-director lecture on “Scientific Method in Neurosurgery”. Research Update in Neuroscience for Neurosurgeons (RUNN) Course, Woods Hole, Massachusetts, October 31 - November 6, 2004.
391. Awad IA. Invited Lecture on “Natural History of Intracranial Arterial Disease”. International Conference on Stroke and Cerebral Circulation, American Stroke Association, New Orleans, Louisiana, February 3, 2005.

392. Awad IA. Moderator Luncheon Seminar on “Dural arteriovenous Malformations”. Annual Joint Meeting of the Cerebrovascular Section of the AANS and CNS and The American Society of Therapeutic and Interventional Neuroradiology, New Orleans, Louisiana, February 2, 2005.
393. Awad IA. Invited Lecture on “Management and prevention of Hemorrhagic Stroke”. Course on Stroke Therapy. American Academy of Neurology, Miami, Florida, April 14, 2005.
394. Awad IA. Invited Lecture “The Future of Neurosurgery Research”. Breakfast Seminar on The Future of Neurosurgery Through the Looking Glass. Annual Meeting of the American Association of Neurological Surgeons, New Orleans, Louisiana, April 19, 2005.
395. Awad IA. Invited Lectures on “Management Advances in Intracerebral Hemorrhage” and “Models and Protocols for Neurocritical Care”. Annual Neurovascular Symposium, Culicchia Clinic. New Orleans, Louisiana, May 13, 2005.
396. Awad IA. Invited Lecture “Operating on Deep Brain lesions and Their Attendant Complications” . Chicago Neurological Society Course on “Complications of Neurosurgical Operations”. Chicago, Illinois, June 11, 2005.
397. Awad IA. Invited Lecture on “Cerebral Revascularization”, and Moderator of Seminar on “Unruptured Intracranial Aneurysms”. 13th World Congress of Neurological Surgery. Marrakesh, Morocco, June 19-24, 2005.
398. Awad IA. Invited lecture on “Clinical Decision Making and a Look at Research Advances”. Second Annual Patients and Families Conference of Angioma Alliance. Baltimore, Maryland, June 24-25, 2005.
399. Awad IA. Invited lecture on Current Treatment Protocols for Stereotactic Radiosurgery. 6th Annual ASI Conference on Neuroscience Centers of Excellence. Chicago, Illinois, July 21-22, 2005.
400. Awad IA. International Honored Guest invited lectures on “Intracerebral Hemorrhage: What Treatment for What Lesion”; “Management of Dural Arteriovenous Malformations”; and “Management of Unruptured Intracranial Aneurysms”. Second International Neurovascular Symposium of Rio de Janeiro. Rio de Janeiro, Brazil, August 19-20, 2005.
401. Awad IA. Visiting Professor Lecture “Integrational Neurosciences Research: Biology of Cerebrovascular Malformations as a Paradigm”. The Neurosciences Program and Neurosurgery Service, Federal University of the State of Rio de Janeiro. Rio de Janeiro, Brazil, August 22, 2005.

402. Awad IA. Course co-Director and Lecture on “Carotid Endarterectomy”. Second Annual Neurovascular Symposium: Surgical and endovascular revascularization for Stroke. Northwestern Memorial Hospital and Northwestern University’s Feinberg School of Medicine. Chicago, Illinois, September 10, 2005.
403. Awad IA. Practical Course co-Director “Literature Review in Neurosurgery 2005” and Invited Panelist, Luncheon Seminar “Multidisciplinary Management of Cerebral Arteriovenous Malformations”. 55th Annual Meeting of the Congress of Neurological Surgeons. Boston, Massachusetts, October 8-13, 2005.
404. Awad IA. Course co-Director and Opening Lecture on “Scientific Method in Neurosurgery”. Research Update in Neuroscience for Neurosurgeons (RUNN) Course. Woods Hole, Massachusetts, October 23-25, 2005.
405. Awad IA. Invited Lecture on “Anatomy of the Cerebral Cavernous Malformation Lesion” and Moderator of Discussion Session on “Translational Research Agenda”. First Annual Cavernous Angioma Research Update Conference. Duke University, Durham, North Carolina, November 18-19, 2005.
406. Awad IA. Invited hands-on lecture instruction on “Carotid Microsurgery Techniques”. 6th Annual International Congress on Cerebral Revascularization. Practical Anatomy Laboratory, Saint Louis University. Saint Louis, Missouri, January 12-13, 2006.
407. Awad IA. Neurological Surgery Grand Rounds “Surgical Management and Research Advances on Cerebral Cavernous Malformations”. Visiting Professor, Department of Neurosurgery, Cornell University Weill Medical College. New York, New York, January 22-23, 2006.
408. Awad IA. Invited Lecture on “Neurosurgical Writing, Analysis and Research Methods”. The Chicago review Course in Neurological Surgery. Chicago, Illinois, February 5, 2006.
409. Awad IA. Invited Moderator, “Evidence Based Neurosurgery (Intracranial Aneurysms)”. International Stroke Conference. Kissimmee, Florida, February 17, 2006.
410. Awad IA. Invited Panelist, “Dural Arteriovenous Malformations”. Annual Joint Meeting of the Cerebrovascular Section of the AANS and CNS and The American Society of Therapeutic and Interventional Neuroradiology. Orlando, Florida, February 20, 2006.
411. Awad IA. Neurology Grand Rounds “Advances in Management of Intracerebral Hemorrhage”. Department of Neurology, Feinberg School of Medicine and Northwestern Memorial Hospital. Chicago, Illinois, March 7, 2006.
412. Awad IA. Invited lecture on “Molecular Imaging of Cerebrovascular Disease”. Annual Meeting of the American Association of Neurological Surgeons. San Francisco, California, April 22-25, 2006.

413. Awad IA. Honored Guest Visiting Professor. Lectures on “Advances in Management of Intracerebral and Intraventricular Hemorrhage” and “Multidisciplinary management of Cerebral Vascular Malformations”. Fourth Annual New Orleans Neurovascular Symposium (Cullichia Clinic, West Jefferson Medical Center and Louisiana State University). New Orleans, Louisiana, May 26, 2006.
414. Awad IA. Invited presentations on “Surgery for Deep Brain lesions” and “Thrombolytic aspiration for intracerebral and intraventricular hemorrhage”. Third Biannual Homecoming Meeting of the World Association of Lebanese Neurosurgeons. Beirut, Lebanon, June 26-28, 2006
415. Shenkar R, Venkatsubramanian P, Zhao J-C, Kohlmeier E, Cilliers R, Kung M, Marchuk D, Kung H, Wyrwicz A, Meade T, Awad IA. Advanced imaging in cerebral cavernous malformations: A platform for molecular imaging technology development and validation. Fifth Annual Meeting of the Society of Molecular Imaging. Waikoloa, Hawaii, August 30-September 2, 2006
416. Awad IA. Symposium co-director and invited lecture on “Recent advances in cavernoma management and biology”. Third Annual Stroke and Neurovascular Symposium, Northwestern Memorial Hospital and Feinberg School of Medicine. Chicago, Illinois, September 9, 2006.
417. Awad IA. Course Director “Literature in Review” and Lecture on “Scientific Literature in Neurosurgery”. Annual Meeting of the Congress of Neurological Surgeons. Chicago, Illinois, October 8, 2007.
418. Awad IA. “Inflammatory hypothesis in cerebral cavernous malformations”. Annual Meeting of the American Academy of Neurological Surgery. Reynolds Plantation, Georgia, October 18-21, 2006
419. Awad IA. Course co-Director, and Invited Lectures on “Scientific Method in Neurosurgery” and “Integrational and Translational Research: Cerebrovascular Malformations as a Disease Model”. Annual Course Research Update in Neuroscience for Neurosurgeons (RUNN). Woods Hole, Massachusetts, October 21-22, 2006.
420. Awad IA. Honorary Visiting Professor, and Lectures on “Updates on Intracerebral Hemorrhage”, and “Cerebral Cavernous Malformations: Clinical Care and Research Advances”. Emirates Neuroscience Society Symposium. Dubai, United Arab Emirates, October 28-30, 2006.
421. Awad IA and Shenkar R. Invited lectures on “Inflammation hypothesis in pathobiology of cerebral cavernous malformations” and “advanced imaging of cerebral cavernous malformations: human lesions and transgenic mice”. Second Annual Scientific Workshop on Cerebral Cavernous Malformations. Washington, D.C., November 17, 2006

422. Awad IA. Invited Lecture “The Science of Neurosurgery”. The Chicago Review Course in Neurological Surgery. Chicago, Illinois, February 4, 2007.
423. Awad IA. Invited plenary lectures on “Translational Genetics: The Cerebrovascular Malformations as a Paradigm” (symposium on the genetics of hemorrhagic stroke); and “Controversies in the Natural History of Vascular Malformations” (symposium on CNS vascular malformations in depth). International Stroke Conference. San Fransisco, California, February 7-10, 2007.

ORGANIZATION OF MAJOR COURSES AND SYMPOSIA

1. Rocky Mountain Neurosurgical Society Annual Meeting. Keystone, Colorado, June 20-26, 1986: Scientific Program Co-Chairman.
2. Midas-Rex Institute and the Cleveland Clinic Foundation. High Speed Pneumo-instrumentation Workshop, Cleveland, Ohio, August 6-9, 1989: Course Director.
3. Singapore Academy of Medicine and Singapore Neuroscience Association. Advances in Neurosciences, Singapore, October 2-4, 1989: Organizing Committee, and Honorary Guest Faculty.
4. Epilepsy Surgery, Second International Symposium. Cleveland, Ohio, June 20-23, 1990: Organizing Committee, and Surgical Sessions Moderator.
5. Congress of Neurological Surgeons Annual Meeting. Orlando, Florida, October 1991: Scientific Program Committee, Plenary Session Moderator, and Cerebrovascular Session Moderator.
6. Cleveland-Montreal International Cerebrovascular Symposium: Vascular Malformations of the Brain. Cleveland, Ohio, February 6, 1992: Scientific Co-Director.
7. Congress of Neurological Surgeons Annual Meeting. Washington, D.C., October 1992: Scientific Program Committee and Luncheon Seminars Chairman (48 Sessions).
8. American Association of Neurological Surgeons Annual Meeting. Boston, Massachusetts, April 1993: Cerebrovascular Session Abstracts Committee and Moderator.
9. Cleveland Clinic-Montreal Neurologic Institute-Yale International Cerebrovascular Symposium: Giant Cerebral Aneurysms. Montreal, Quebec, December 2-4, 1993: Scientific Co-Director.
10. Fourth International Workshop on Cerebrovascular Surgery. Chicago, Illinois, June 14-16, 1995: Organizing Committee.

11. Massachusetts General Hospital Course on Cerebrovascular Malformations and Aneurysms. Boston, Massachusetts, June 28- July 1, 1995: Organizing Committee.
12. Congress of Neurological Surgeons Annual Meeting. San Francisco, California, October 1995: Scientific Program Committee and Plenary Session moderator (General Scientific Session).
13. First Annual Scientific Meeting of the Joint Section on Cerebrovascular Surgery of the American Association of Neurological Surgeons and the Congress of Neurological Surgeons. San Antonio, Texas, January 23-25, 1996: Chairman of Organizing Committee and Scientific Program.
14. Cerebrovascular Occlusive Disease and Brain Ischemia. A scientific and clinical Postgraduate Symposium hosted by the Yale Cerebrovascular Center with contributions by academic institutions of New England and Quebec. New Haven, Connecticut, May 17-19, 1996: Symposium Co-Director.
15. International Satellite Workshop on Critical Care for Acute Stroke. Dusseldorf, Germany, September 1996: Scientific Committee.
16. Third Annual Scientific Meeting of the Joint Section on Cerebrovascular Surgery of the American Association of Neurological Surgeons and the Congress of Neurological Surgeons. Orlando, Florida, February 1998: Scientific Program Committee and Chairman of Budget and Financial Planning.
17. Special Problems in the Management of Subarachnoid Hemorrhage: An Educational Symposium. Symposium Chairman, and Special Lecture on Aneurysm Epidemiology. Philadelphia, Pennsylvania, April 27, 1998.
18. Congress of Neurological Surgeons 48th Annual Meeting. Seattle, Washington, October 1998: Chairman Scientific Program Committee.
19. Review and Update in Neurosciences for Neurosurgeons (RUNN) Course. Annual one-week course sponsored by the Society of Neurological Surgeons. Marine Biology Laboratory, Woods Hole, Massachusetts. Course Director, 1999- 2004. Course Co-Director, 1998, 2005- present.
20. Neurosurgical Approaches to the Carotid Artery. Hands-on surgical dissection and techniques course. St Louis University Microdissection Laboratory. Saint Louis, Missouri, March 20-21, 1999: Course Director.
21. Congress of Neurological Surgeons 49th Annual Meeting. Boston, Massachusetts, October 1999: Annual Meeting Chairman.
22. Congress of Neurological Surgeons 51st Annual Meeting. San Diego, California, October 2001: Congress President.

23. International Neurosurgery Colloquium. Practical Course Co-Director on virtual Neurosurgery, computer techniques and international development. Annual Meeting of the Congress of Neurological Surgeons, Denver Colorado, October 19, 2003.
24. Panel on Hemorrhagic Stroke Research Methodologies and Outcome. National Institute for Neurological Disorders and Stroke Consensus Conference on Hemorrhagic Stroke, National Institutes of Health, Bethesda, Maryland, November 17, 2003
25. Microsurgical Approaches to the Anterior skull Base, Cavernous Sinus and Petroclival Region. Department of Neurological Surgery, Northwestern University Feinberg School of Medicine and Evanston Northwestern Healthcare. Evanston, Illinois, April 1-3, 2005
26. Annual Stroke Neurovascular Symposium. Northwestern Memorial Hospital and Northwestern University Feinberg School of Medicine. Chicago Illinois, September 2004, 2005 and 2006. Symposium co-director.
27. Annual Workshops on the Pathobiology of Cerebral Cavernous Malformations. Cavernous Angioma Alliance. First Workshop. Durham, North Carolina November 2005. Second Workshop, Washington, D.C. November 2006. Co-chairman, Organizing Committee.
28. Neurosurgery Literature in Review. Practical Course co-Director. Congress of Neurological Surgeons Annual Meeting. Inaugural offering at Annual CNS Meeting in Boston, Massachusetts, October 9, 2005. Second offering in Chicago, Illinois, October 8, 2006. To be offered yearly.

BIBLIOGRAPHY: ORIGINAL ARTICLES

1. Awad IA, Little JR, Furlan AJ, Weinstein MA: Correlation of clinical and angiographic findings in brain ischemia with regional cerebral blood flow measured by the Xenon inhalation technique. Neurosurgery 11:1-5, 1982.
2. Awad IA, Little JR, Modic MT, Furlan AJ: Intravenous digital subtraction angiography: An index of collateral cerebral blood flow in internal carotid artery occlusion. Stroke 13:469-472, 1982.
3. Awad IA, Little JR, Lucas F, Skrinska V, Slugg R, Lesser RP: Treatment of acute focal cerebral ischemia with prostacyclin. Stroke 14:203-209, 1983.
4. Awad IA, Little JR, Lucas F, Skrinska V, Slugg R, Lesser RP: Modification of focal cerebral ischemia by prostacyclin and indomethacin. J Neurosurg 58:714-719, 1983.
5. Awad IA, Little JR, Bryerton B, Furlan AJ: Regional cerebral blood flow in extracranial-intracranial bypass surgery. J Cereb Blood Flow Metab 3:596-597, 1983.

6. Awad IA, Furlan AJ, Little JR: Changes in intracranial stenotic lesions after extracranial-intracranial bypass surgery. J Neurosurg 60:771-776, 1984.
7. Awad IA, Modic MT, Little JR, Furlan AJ: Focal parenchymal lesions in transient ischemic attacks. Correlation of CT and MRI. Stroke 17:399-403, 1986.
8. Awad IA, Bay JW, Rogers L: Leptomeningeal metastasis from supratentorial malignant gliomas. Neurosurgery 19:247-251, 1986.
9. Salgado ED, Weinstein M, Furlan AJ, Modic MT, Beck GJ, Estes M, Awad IA, Little JR: Proton magnetic resonance imaging in ischemic cerebrovascular disease. Ann Neurol 20:502-507, 1986.
10. Awad IA, Spetzler RF: Extracranial-intracranial bypass surgery: A critical analysis in light of the International Cooperative Study. Neurosurgery 19:655-664, 1986.
11. Awad IA, Spetzler RF, Hodak JA, Awad CA, Carey R: Incidental subcortical lesions identified on magnetic resonance imaging in the elderly: I. Correlation with age and cerebrovascular risk factors. Stroke 17:1084-1089, 1986.
12. Awad IA, Johnson PC, Spetzler RF, Hodak JA: Incidental subcortical lesions identified on magnetic resonance imaging in the elderly: II. Postmortem pathological correlations. Stroke 17:1090-1097, 1986.
13. Awad IA, Carter LP, Spetzler RF, Medina M, Williams F: Clinical vasospasm after subarachnoid hemorrhage: Response to hypervolemic hemodilution and arterial hypertension. Stroke 18:365-372, 1987.
14. Awad IA, Spetzler RF, Hodak JA, Awad CA, Williams F, Carey R: Incidental lesions noted on magnetic resonance imaging of the brain - Prevalence and clinical significance in various age groups. Neurosurgery 20:222-227, 1987.
15. Awad IA, Kalfas I, Hahn JF, Little JR: Intracranial meningiomas in the aged: Surgical outcome in the era of computed tomography. Neurosurgery 24:557-560, 1989.
16. Awad IA, Katz A, Hahn JF, Kong AK, Ahl JJ, Luders H: Extent of resection in temporal lobectomy for epilepsy. I. Interobserver analysis and correlation with seizure outcome. Epilepsia 30:756-762, 1989.
17. Katz A, Awad IA, Kong AK, Chelune GJ, Naugle RI, Wyllie E, Beauchamp G, Luders H: Extent of resection in temporal lobectomy for epilepsy. II. Memory changes and neurologic complications. Epilepsia 30:763-771, 1989.
18. Awad IA, Katz A, Luders H: Quantification of temporal lobe resections: A new approach. Cleve Clinic J of Med 56:833-836, 1989.

19. Little JR, Rosenfeld JV, Awad IA: Internal carotid artery occlusion for cavernous segment aneurysm. Neurosurgery 25:398-404, 1989.
20. Awad IA, Wyllie E, Luders H, Ahl JJ: Intraoperative determination of the extent of corpus callosotomy for epilepsy: Two simple techniques. Neurosurgery 26:102-105, 1989.
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AWARDS AND DISTINCTIONS

The Pudenz Award for “Excellence in Hydrocephalus Research”, December 1988.
The Oldendorf Award, American Society of Neuroimaging, January 1989.
Who's Who in Medicine and the Health Professions. 1990, 1994.
Harry Wilkins Visiting Professor, University of Oklahoma School of Medicine, May 1994.
Honorary Master of Arts (Privatim), Yale University. January 1995.
The Rasmussen Lecturer, Montreal Neurological Institute, December 1995.
Best Doctors in America (Neurosurgery), Good Housekeeping Magazine, 1996.
Best Doctors in America (Northeast Region), 1996.
Best Doctors in America (National listing), 1998-2003; 2005-2006.
Invited Nominator, The Nobel Committee for Physiology and Medicine, Karolinska Institute, Stockholm, Sweden (1997, 1999 and 2001 prizes).
The Nixdorff-German Endowed Professorship Chair in Neurosurgery, Yale University, 1997-2000.
Strathmore's Who's Who, 1998-2001.
The 4th Tindall Distinguished Professor, Emory University, April 1999.
Honored Alumnus. The Cleveland Clinic Foundation, May 1999.
President, Congress of Neurological Surgeons, September 2000 - October 2001.
Royal Australasian College of Surgeons, Neurosurgical Society Visiting Professor, May 2000.
The Ogsbury-Kindt Professor of Neurosurgery, University of Colorado School of Medicine, 2001-2003.

Who's Who Among America's Teachers, 2002-2003.
Who's Who Among executives and Professionals, 2005-2006 (Honors Registry).
America's Top Doctors, Castle Connolly Guide, 2002- 2003.
2000 Outstanding Intellectuals of the 21st Century , International Biographical Centre, Cambridge, England, 2002-2004.
Twenty Second J. Jay Keegan Visiting Professor, University of Nebraska, May 2002.
Butcher Award for Genomics Research, University of Colorado, May 2003.
Foundations in Doctoring Teacher Award, University of Colorado School of Medicine, September 2003.
World Innovation Foundation (Invited Fellow), United Kingdom, September 2003.
21st Century Award for Achievement, International Biographical Centre, Cambridge, England, 2002-2004.
International Health Professional of the Year, Biographical Centre, Cambridge, England, 2004.
Distinguished Service Award, World Association of Lebanese Neurosurgeons, June 2004
Commission des Theses, Universite Pierre et Marie Curie, Paris VI, These de Doctorat (2004)
Academic Excellence Award, Department of Surgery (Neurosurgery), Evanston Northwestern Healthcare (2005, 2006)

ACADEMIC PUBLICATION PEER REVIEW

Neurosurgery (Editorial Board, Editor *CPC Special Feature*, Editor *Science Times in Neurosurgery*, Associate Editor)
 Techniques in Neurosurgery (Editorial Board)
 Seminars in Cerebrovascular Disease and Stroke (Editorial Board)
 Neurologia Medico-Chirurgica (International Advisory Board)
 Journal of Neurosurgery, Surgical Neurology, British Journal of Neurosurgery, Neurology, Archives of Neurology, Stroke, Cancer, Journal of Clinical Neurophysiology, Epilepsia, Annals of Neurology, American Journal of Neuropsychology, American Journal of Neuroradiology, Surgical Neurology (reviewer)

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