

Anthony Furlan, MD



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Case Medical Center
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CURRENT POSITION:

Chairman, Department of Neurology
Co-Director, Neurological Institute
Gilbert W. Humphrey Professor
University Hospitals Case Medical Center

ACADEMIC AND HOSPITAL APPOINTMENTS:

Professor of Neurology, University Hospitals Case Medical Center and Case Western Reserve University

EDUCATION & TRAINING:

Education

1969 - 1973 Loyola University, Chicago, Illinois
Loyola Stritch, Maywood, Illinois magna cum laude

Postgraduate Training

1971- 1974 Internship: Mixed Medical, Cleveland Clinic Foundation, Cleveland, Ohio

1974- 1977 Residency: Neurology, Cleveland Clinic Foundation, Cleveland, Ohio

1977 –1978 Cerebrovascular Research Fellowship: Mayo clinic, Rochester, Minnesota

PROFESSIONAL EXPERIENCE:

Academic

12/31/07- Present
Gilbert W. Humphrey Professor
Chairman, Department of Neurology
Co-Director of the Neurological Institute, University Hospitals Case Medical Center and Case Western Reserve University

Non-Academic

1999-2006 Head, Section of Stroke and Neurological Intensive Care, Department of Neurology, Cleveland Clinic Foundation
1990-1999 Head, Section of Adult Neurology, Cleveland Clinic Foundation
1982-1988 Head, Section of Adult Clinical Neurology, Cleveland Clinic Foundation
Through 12/07 Professional Staff, Department of Neurology, Cleveland Clinic

Through 12/07 Director, JCAHO Primary Stroke Center, Cleveland Clinic Foundation
Through 12/07 Program Director, Vascular Neurology, Cleveland Clinic Foundation
Through 12/07 Associate Director, Bakken Heart Brain Institute, Cleveland Clinic Foundation
Through 12/07 Associate Director, Cerebrovascular Center, Neuroscience Institute,
Cleveland Clinic Foundation
Chairman, Cleveland Operation Stroke
Chairman, NINDS Hospital Care of Acute Stroke Task Force. NINDS.
Symposium on the Rapid Identification and Treatment of Acute Stroke.
Arlington, VA. December 12-13, 1996
American Academy of Neurology Chair Interventional Neurology ACGME
Task Force 2/99 – 2/05
Chairman, Neurovascular Coalition

BOARD CERTIFICATION:

1979 American Board Psychiatry and Neurology
2005 Vascular Neurology

HOSPITAL AFFILIATIONS:

University Hospitals Case Medical Center

HONORS AND AWARDS:

American Stroke Association 2000 William Feinberg Award
Joint Commission 2003 Codman Award Systems Category IVtPA for Acute Stroke
Anthem Impact Award Inside Business 2005
American Heart Association Pacesetter Award 2005
Teacher of the Year Cleveland Clinic 1988, 2001, 2005

PROFESSIONAL SOCIETIES:

1972 Alpha Omega Alpha Honor Medical Society
1979 American Academy of Neurology
1996 American Academy of Neurology, Fellow
Stroke Council American Heart Association, Fellow
May Alumni Association
1984 American Neurological Association

HOSPITAL COMMITTEES:

Chairman, Cleveland Clinic Health System Stroke Committee
1986-1989 Medical Division Committee, Cleveland Clinic Foundation

EDITORIAL BOARDS:

Stroke

AD HOC REVIEWER:

Neurology, JAMA, NEJM

ADVISORY COUNCILS & PROFESSIONAL SERVICE:

Chairman, Neurovascular Coalition American Academy of Neurology
Chairman, AHA Operation Stroke, Cleveland, Ohio
AAN Stroke Systems Work Group
ASA/AHA Stroke Center Advisory Group
Board of Trustees, AHA Northeast Ohio Affiliate
Board of Trustees, Ohio Stroke Association
2002-2005 ASA Stroke Council Executive Committee

1989-1990 Chairman, Professional Council Department of Neurology
1988-1990 Chairman, Employee Health Care Advisory Committee, Cleveland Clinic Foundation
1989-1992 Public Education Committee, AHA., NE Ohio Chapter
1998-2005 Co-Chairman, National Stroke Association Stroke Center Network
2000-2002 Co-Chairman, Brain Attack Coalition Stroke Center Task Force

GRANTS & SPONSORED RESEARCH:

Principal Investigator

PROACT II Abbott Labs
CLOSURE I NMT Medical Boston
DIAS 2 PAION/Forest Labs
DEDAS Forest Labs
TIME Possis Medical

Co-Investigator

PROACT I
26 NIH and industry supported clinical trials
STAIR steering committee

INVITED PRESENTATIONS:

American Stroke Association 2000 Feinberg Lecture
HJM Barnett Lecture University of Toronto 2002
42 Major National or International Invited Lectures

BIBLIOGRAPHY:

Original Articles

1. Furlan, AJ, Hanson M, Cooperman A, Farmer RG: Acute areflexia paralysis: Association with hyperalimentation and hypophosphatemia. Arch Neurol 32:706-70, 1975.
2. Hoeltge GA, Furlan A, Hoffman GC: The differential cytology of cerebrospinal fluids prepared by cytocentrifugation. Cleve Clin O 43:237-246, 1976.
3. Furlan AJ, Whisnant JP, Elveback LR: The decreasing incidence of primary intracerebral hemorrhage: A population study. Ann Neurol 5:367-373, 1978.
4. Sandok BA, Furlan AJ, Whisnant JP, Sundt TM, JR.: Guidelines for the management of transient ischemic attacks. Mayo Clin Proc 53:665-674, 1978.
5. Furlan AJ: The management of occlusive cerebrovascular disease. Primary Care 7:37-47, 1980.
6. Furlan AJ, Whisnant JP, Baker HL, Jr.: Long-term prognosis following carotid artery occlusion. Neurology 30:986-988, 1980.
7. Furlan AJ, Whisnant JP, Kearnes TP: Unilateral visual loss in bright light: An unusual sign of carotid occlusive disease Arch Neurol 36:675-676, 1979.
8. Garraway WN, Whisnant JP, Furlan AJ, Phillips LH, II, Kurland LT, O'Fallan WM: The declining incidence of stroke. N. Engl J Med 300:449-452, 1979.
9. Furlan AJ, Little JR, Dohn DF: Arterial occlusion following anastomosis of the superficial temporal artery to middle cerebral artery. Stroke 11:91-95, 1980.
10. Furlan AJ, Henry CE, Sweeney PJ, Mitsumoto H: Focal electroencephalographic abnormalities in Heidenhain variant of Jacob-Creutzfeldt disease. Arch Neurol 38:312-314, 1981.
11. Furlan AJ, Little JR: An update on ischemic cerebrovascular disease and stroke. Ohio State Med J. 77:170-171, 1981.
12. Lederman RJ, Breuer AC, Furlan AJ, Hanson MR, Wilbourn AJ, Loop FD, Cosgrove DM, Estafanous FG: Frequency and type of nerve injury associated with coronary artery bypass graft surgery. Trans Amer Neurol Assoc 105:439-441, 1981.
13. Breuer AC, Furlan AJ, Hanson MR, Lederman RH, Loop FD, Cosgrove DM, Ghattas MAN, Estafanous FG: Neurologic complications of open heart surgery. Cleve Clinic Quart 481:205-206, 1981.

14. Chilcote WA, Modic MT, Pavlicek WA, Little JR, Furlan AJ, Duchesneau PM, Weinstein MA: Digital subtraction angiography of the carotid arteries. A comparative study in 100 patients. Radiology 139:287-295, 1981.
15. Little JR, Furlan AJ, Modic MT, Bryerton B, Weinstein MA: Intravenous digital subtraction angiography: Application to cerebrovascular surgery. Neurosurgery 9:129-136, 1981.
16. Modic MT, Weinstein MA, Chilcote WA, Pavlicek W, Duchesneau PM, Furlan AJ, Little JR: Digital subtraction angiography of the intracranial vascular system: A comparative study in 55 patients. AJNR S:527-534, 1981. (Also in AJR, in press, 1982.)
17. Sweeney, PJ. Breier AC. Selhorst JB, Waybright EA, Furlan AJ, Lederman RJ, Hanson MR, Tomsak R: Ischemic optic neuropathy: A complication of cardiopulmonary bypass surgery. Neurology 32:560-562, 1982.
18. Furlan AJ, Cavalier SJ, Hobbs RE, Weinstein MA, Modic MT: Hemorrhage and anticoagulation after non-septic embolic brain infarction. Neurology 32:280-282, 1982 (Also in Le Journal International DeMedecine 5:53, 1982).
19. Sandok BA, Whisnant JP, Furlan AJ, Mickell JL: Carotid artery bruits – Prevalence survey and differential diagnosis May Clin Proc 57:227-230, 1982.
20. Weinstein A, Schioavone W, Furlan AJ: Listeria rhomencephalitis: Report of a case. Arch Neurol 39:514-516, 1982.
21. Lederman RJ, Breuer AC, Hanson MR, Furlan AJ, et al: Peripheral nervous system complications of coronary artery bypass graft surgery. Ann Neurol 12:297-301, 1982.
22. Awad I, Little JR, Modic MT, Furlan AJ: Intravenous digital subtraction angiography: An index of collateral cerebral blood flow internal carotid artery occlusion. Stroke 13:469-472, 1982.
23. Marzewski D, Furlan AJ, St. Louis P, et al: Intracranial internal carotid artery stenosis: Long-term prognosis. Stroke 13:821-828, 1982.
24. Little JR, Furlan AJ, Modic MT, et al: Intravenous digital subtraction angiography in brain ischemia. JAMA 247:3213-3216, 1982.
25. Little JR, Furlan AJ, Modic MT, Weinstein MA: Digital subtraction angiography in cerebrovascular disorders. Stroke 13:557-566, 1982.
26. Awad I, Little JR, Furlan AJ, Weinstein MA: Clinical and angiographic correlation of xenon inhalation regional cerebral blood flow in brain ischemia. Neurosurgery 11:1-5, 1982.
27. Little JR, Lesser RP, Lüders H, Furlan AJ: Brainstem auditory evoked potentials in posterior circulation surgery. Neurosurgery 12:496-501, 1983.
28. Furlan AJ, Weinstein MA, Little JR, Modic MT: Digital subtraction angiography in cerebrovascular disease. Neurologic Clinic of North America 1:55-72, 1983.
29. Wilbourn AJ, Furlan AJ, Hulley W, Ruschhaupt W: Ischemic monomelic neuropathy. Neurology 33:447-451, 1983.
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33. Furlan AJ, Breuer AC: Central nervous system complications of open heart surgery. A Current Concepts in Cerebrovascular Disease: Stroke 18-7-11, 1984.
34. Lesser RP, Lüders H, Conomy JP, Furlan AJ, Dinner DS: Sensory seizure mimicking a psychogenic seizure: Neurology 33:800-802, 1983.
35. Furlan AJ, Craciun AR, Raju NR, Hart N: Cerebrovascular complications associated with idiopathic hypertrophic subaortic stenosis. Stroke 15:282-283, 1984.
36. Hakim AM, Furlan AJ, Hart RG, et al: (Cerebral Embolism Study Group) Immediate anticoagulation of embolic stroke: part I, A prospective study. Stroke 14:668-676, 1983.
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53. Awad I, Modic M, Little JR, Furlan AJ, Weinstein M. Focal parenchymal lesions in transient ischemic attacks: correlation of computed tomography and magnetic resonance imaging. Stroke 17:399-403, 1986.
54. Sila C, Furlan AJ, Little JR. Pulsatile tinnitus. Stroke 18:252-256, 1987.
55. Moufarrij NA, Little JR, Furlan AJ, et al. Basilar and distal vertebral artery stenosis: long-term follow-up. Stroke 17:938-942, 1986.
56. Salgado ED, Weinstein M, Furlan AJ, et al. Proton magnetic resonance imaging in ischemic cerebrovascular disease. Annals Neurol 20:502-507, 1986.
57. Furlan AJ. Stroke: the heart of the matter. Stroke 17:583-585, 1986. (editorial)
58. Little JR, Tomsak RL, Ebrahim ZY, Furlan AJ, et al. Retinal artery pressure and cerebral artery perfusion pressure in cerebrovascular occlusive disease. Neurosurg 18:716-720, 1986.
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61. Sterman AB, Furlan AJ, Pessin M, Kase C, Caplan L., Williams G. Acute stroke therapy trials: an introduction to recurring design issues. Stroke 18:524, 1987.
62. Furlan AJ. Interpretation of the carotid bruit. Modern Medicine 55:58, 1987.
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74. Chimowitz MI, Lafranchise EF, Furlan AJ, Awad IA. Ipsilateral leg weakness associated with carotid stenosis. Stroke 21:1362-1364, 1990.
75. Chimowitz MI, Furlan AJ, Nayak S, Sila CA. Mechanism of stroke in patients taking aspirin. Neurology 40:1682-1685, 1990.
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78. Chimowitz MI, Furlan AJ, Sila CA, et al. Etiology of motor or sensory stroke. A prospective study of the predictive value of clinical and radiologic features. Ann Neurol 30: 519-525, 1991.
79. Williams JL, Shea M, Furlan AJ, et al. Importance of freezing time when iodoantipyrine is used for measurement of cerebral blood flow. Am J Physiol 261:H252-H256, 1991.
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84. Rodman Rd, Furlan AJ. Severe extracranial carotid atherosclerosis in young adults. J Stroke Cerebrovasc Dis vol. 2, no. 3:173-177, 1992.
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86. Furlan AJ. Transient ischemic attacks: Recognition and management. Heart and Stroke Jan./Feb. 1992, pg.33-38.
87. Kase CS, Pessin MS, Zivin JA, delZoppo GJ, Furlan AJ, et al. Intracranial hemorrhage after coronary thrombolysis with tissue plasminogen activator. Amer J Med 92:384-390, April 1992.
88. Chimowitz MI, Furlan AJ, Jones SC, Sila CA, Paranandi L, Beck G. Assessment of cerebral perfusion reserve in patients with carotid occlusive disease using transcranial Doppler ultrasound and acetazolamide infusion. Neurology (in press), 1992.
89. Williams JL, Furlan AJ. Cerebral vascular physiology in hypertensive disease. Neurosurg Clin North Amer vol. 3 no.3:509-520, July 1992.
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91. Furlan AJ, Sila CA, Chimowitz MI, Jones SC. Neurologic complications related to cardiac surgery. Neurol Clin vol. 10 no. 1:145-166, 1992.
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93. Furlan AJ. Potential role of magnetic resonance imaging in selecting patients for thrombolytic therapy. GJ delZoppo, E Mori, W Hacke (eds). Thrombolytic Therapy in Acute Ischemic Stroke II. Springer-Verlag, 1993.
94. delZoppo GJ, Higashida RT, Furlan AJ. The case for a phase III trial of cerebral intra-arterial fibrinolysis. AJNR 15:1217-1222, 1994.
95. Thakore S, Furlan AJ. Fever following intracerebral and intraventricular hemorrhage. J Stroke Cerebrovascular Disease 4:139-142, 1994.
96. Hanna JP, Sun JP, Furlan AJ, et al. Patent foramina ovale and brain infarct. Echocardiographic predictors, recurrence and prevention.
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100. Perez-Trepichio AD, Xue M, Ng TC, Majors AW, Furlan AJ, Awad IA, Jones SC. Sensitivity of magnetic resonance diffusion-weighted imaging and regional relationship between the apparent diffusion coefficient and cerebral blood flow in rat focal cerebral ischemia. Stroke 26:667-675, 1995.
101. Furlan AJ. Stroke: Prevention still the best treatment. Cleve Clinic J. Med 62:6-8, 1995.
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106. Fisher M, Pessin MS, Furlan AJ. ECASS: Lessons for future thrombolytic stroke trials (editorial). JAMA 1995; 274:1058-1059.
107. Sila CA, Furlan AJ. Therapy for acute ischemic stroke: Interpreting the NINDS rt-PA Stroke Study. Cleve Clinic J Med 1996; 63:77-79.
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109. Furlan AJ, Kanoti G. When is thrombolysis justified in patients with acute ischemic stroke: A bioethical perspective. Stroke. 28:214-218, 1997.
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116. Hinchey JA, MD; Furlan AJ, MD; Frank JI, MD; Kay R, MD; Misch D, MD; and Hill C. Is Inhospital Stroke Mortality an Accurate Measure of Quality of Care? *Neurology* 50:619-625, 1998.
117. The Warfarin-Aspirin Symptomatic Intracranial Disease (WASID) Study Group. Prognosis of Patients with Symptomatic Vertebral or Basilar Artery Stenosis. *Stroke* 29:1389-1392, 1998.
118. Furlan AJ. Thrombolysis for Stroke: The Beginning of a Revolution. *Cleve Clinic J Med* 65:185-1990, 1998.
119. del Zoppo GJ, Higashida RT, Furlan AJ, Pessin MS, Rowley HA, Gent M and the PROACT Investigators. PROACT: A Phase II Randomized Trial of Recombinant Pro-Urokinase by Direct Arterial Delivery in Acute Middle Cerebral Artery. *Stroke* 29:4-11, 1998.
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121. Bekavic I, Hanna JP, Sila CA, Furlan AJ. Warfarin and low-dose aspirin for stroke prevention from severe intracranial stenosis. *J Stroke and Cerebrovasc Dis* 1999; 8:33
122. Furlan A, Higashida R, Wechsler L, Gent M, et al. The PROACT II Study: Intra-arterial prourokinase for acute ischemic stroke. A randomized controlled trial. *JAMA* (1991;282:2003-2011).
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128. Kase CS, Furlan AJ, Wechsler LR, et al. Cerebral Hemorrhage after intra-arterial thrombolysis for ischemic stroke. The PROACT II trial. *Neurology* 2001;57:1603-1610.
129. Furlan AJ. CVA: Reducing the risk of a confused vascular analysis. The Feinberg Lecture. *Stroke* 2000, 31:1451-1456.
130. Krieger DW, DeGeorgia MA, Abou-Chebl A, Andrefsky JC, Sila CA, Katzan IL, Maybert MR, Furlan AJ. Cooling for acute ischemic brain damage (cool-aide): an open pilot study of induced hypothermia in acute ischemic stroke. *Stroke*. 2001; 32:1847-1854.
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133. Hajj-Ali RA, Furlan A, Abou-Chebl A, Calabrese LH. Benign angiopathy of the central nervous

- system: cohort of 16 patients with clinical course and long-term follow-up [Journal Article] *Arthritis & Rheumatism*. 47(6):662-9, 2002 Dec 15.
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