

North County Neurology Associates dba
The Neurology Center
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Benjamin Mark Frishberg, M.D.

EDUCATION

University of California, Berkeley, CA ■ 1972

University of Minnesota, Minneapolis, Minnesota, ■ 1974
B.A., Summa Cum Laude, Physiological Psychology

University of Minnesota Medical School, Minneapolis, Minnesota ■ 1979
M.D.

University of California School of Medicine, San Diego, CA ■ 1979-1980
Internship, Internal Medicine

University of California School of Medicine, San Diego, CA ■ 1980-1981
Resident, Internal Medicine

University of California School of Medicine, San Diego, CA ■ 1981-1984
Resident, Neurology

Chief Resident, Neurology, La Jolla Veterans Administration, La Jolla, CA ■ 1984

Emory University School of Medicine, Atlanta, GA ■ 1984-1985
Fellowship, Neuro-Ophthalmology

LICENSURE

- **California Medical License Number – G43493**
 - **DEA Certificate Number – AF9596327**
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CERTIFICATIONS

- **American Board of Psychiatry and Neurology, Certified in the Specialty of Neurology ■ 1985**
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AWARDS

- **Phi Beta Kappa ■ 1974**
- **Alpha Omega Alpha Honor Medical Society ■ 1979**
- **Honor Award – American Academy of Ophthalmology ■ 1994**
- **Annual Teaching Award, Howard University
Department of Ophthalmology ■ 1996**

PROFESSIONAL SOCIETIES

- American Academy of Neurology, Fellow
- North American Neuro-Ophthalmology Society, Fellow
- American Headache Society
- International Headache Society
- Society of Clinical Neurology
- San Diego Neurologic Society
- Association of California Neurologists, Founding Member
- San Diego County Medical Society
- American Council for Headache Education
- National Headache Foundation

PROFESSIONAL EXPERIENCE

Director

Director, The Headache Center of Southern California, La Jolla, California ■ 2000-Present

Private Practice, Neurology and Neuro-Ophthalmology

North County Neurology Associates dba The Neurology Center, Oceanside, Encinitas, and La Jolla offices, California ■ 1997-Present

Private Practice, Neurology and Neuro-Ophthalmology

The Neurology Center, P.A., Chevy Chase, Maryland ■ 1985-1997

Associate in Ophthalmology

Emory University, Atlanta, Georgia ■ 1984

Clinical Associate Professor of Neurology

University of California, San Diego ■ 1998 – present

Clinical Professor of Ophthalmology/Director of Neuro-Ophthalmology

Howard University School of Medicine, Washington D. C. ■ 1993-1997

Clinical Assistant Professor of Neurology

Georgetown University School of Medicine, Washington, D.C. ■ 1992-1997

Clinical Assistant Professor of Neurology,

George Washington School of Medicine, Washington DC, 1985-1997

HOSPITAL AFFILIATIONS

- **Tri-City Medical Center**, Oceanside, California, Active Privileges ■ 10/25/1997 - Present
- **Scripps Memorial Hospital**, Encinitas, California, Active Privileges ■ 1997 – Present
- **Scripps Memorial Hospital**, La Jolla, California, Active Privileges ■ 1997 – Present

PROFESSIONAL SERVICE

Finance Committee, North American Neuro-Ophthalmology Society ■ 2002-2004

Chief of Neurology, Scripps Hospital, La Jolla, CA ■ 2002-2004

Chief of Neurology, Scripps Hospital, Encinitas, CA ■ 2001-2003

Medical Advisory Board, Myasthenia Gravis Foundations of California ■ 1999- present

Program Director, San Diego Neurological Society ■ 1999-2002

Medical Economics Committee, Association of California Neurologists ■ 1999-2004

Ad Hoc Reviewer, Headache ■ 1999-present

Ad Hoc Reviewer, Neuro-Ophthalmology ■ 2001-present

Ad Hoc Reviewer, Cephalalgia ■ 2003-present

Team Leader, Evidence Based Guidelines for Neuro-imaging in Primary Headache Disorders, United States Headache Consortium ■ 1994-1999

Member, American Academy of Neurology, United States Headache Consortium ■ 1996-1999

Member, American Board of Psych. and Neurology Committee on Recertification in Neurology ■ 1999-2004

Member, World Federation of Neurology (WFN) Research Group in Neuro-ophthamology and Neuro-otology ■ 1998-1999

Member, Nominations Committee, American Academy of Neurology ■ 2000

Member, Practice Improvement Subcommittee, American Academy of Neurology ■ 1999-2001

Member, Medical Economics and Management Committee, American Academy of Neurology ■ 1993-1999

Board Examiner, American Board of Psychiatry and Neurology ■ 1999-2001

Regional Medicare Carrier Advisory Committee ■ 1993-1997

Advisor, American Academy of Neurology Advisor to the AMA's RBRVS Update Committee (R.U.C.) ■ 1994-1996

Convention Planning Committee, N. American Neuro-Ophthalmology Soc. ■ 1994-1998

Managed Care Committee, North American Neuro-Ophthalmology Society ■ 1999

Member, Quality Standards Committee, American Academy of Neurology ■ 1990-1993

Chairman, Medical Advisory, Myasthenia Gravis Foundation, Washington DC Chapter ■ 1989-1994

President, Phi Delta Epsilon Medical Fraternity, Washington DC Chapter ■ 1990-1991

LECTURE ACTIVITIES/CME

“Clinical Approach to Eye Movement Disorders”, UCSD Dept of Ophthalmology Resident Lecture Series, 1/2004

“Optimizing Patient Compliance, Primary Care Network, La Jolla, CA. 1/2004

“Primer on Multiple Sclerosis”, The Neurology Center 5th annual primary Care Update, 1/2004.

“Professor’s Rounds”, Department of Neurosciences, UCSD School of Medicine, 1/2004.

“Migraine: Treatment Approaches do make a Difference”, Pri-Med Annual Meeting, Boston MA, 11/2003

“Neurotoxins and their Ophthalmic Uses”, Orange County Ophthalmologic Society, Newport Beach, 11/2003.

Neuroimaging in Headache for National Ambassador’s Program, Cincinnati, OH. 10/2003

“Migraine Care Program, La Jolla , CA. 10/2003

“Neurotoxins and their use in Pain, Las Vegas, NV. 10/2000

“Neuroimaging in Headache Disorders” and “Cluster Headache”, Kaiser Southern California Headache Management Seminar, Garden Grove, CA.. 9/2003

“New Options in Migraine Therapy”, Inland Valley Hospital CME Program, Temecula CA. 9/2003

“Basic Headache Management”, Primary Care Approach to Pain, Palomar Hospital, Escondido, CA. 8/2003

Primary Care Network, “Approaching Headache”, Dallas, Los Angeles, New York, 04-06/2003

“Topiramate in the Treatment of Headache”, Orange County, 04/2003

“Neurotoxins and their Clinical Applications” Scripps Memorial Hospital Grand Rounds, 04/2003

North American Women’s Healthcare Forum, “Migraine Update”, Anaheim 03/2003

Fourth Annual Neurology Update for Primary Care, “The Role of Primary Care in the Diagnosis and Treatment of Multiple Sclerosis”, 03/2003

Fourth Annual Neurology Update for Primary Care, Program Director, 03/2003

“Neuro-Ophthalmic Issues in Neuro-Rehabilitation”, Grand Rounds, Scripps Encinitas Department of Rehabilitation, 01/2003

Sinus Headache CME Program, 10-12/2002

National Ambassador Program, “Diagnostic Testing in Headache”, Phoenix, Dallas, Seattle, 2002

Invited Speaker, San Diego Academy of Family Practice Annual Meeting, “Approaching the Diagnosis and Treatment of Headache”, 5/2002

Third Annual Neurology Update, Case Based Approach to Migraine, 5/2002

Third Annual Neurology Update, Program Director, 5/2002

“Lids and Pupils”, Lecture to UCSD Neurology Residents, 5/2002

“A New Option for the Management of Primary Headache, CME Program, Beverly Hills, CA. 5/2002

“Debates in Headache”, AAN Annual meeting, After Dinner Course, Denver, CO, 4/2002

LECTURE ACTIVITIES/CME CONTINUED

Grand Rounds, Department of Neurology, University of Utah, Salt Lake City, UT, "The Visual Phenomena of Migraine", Salt Lake City, UT, 3/2002

Multiple Sclerosis and Women's Health Issues, North American Women's Healthcare Forum, Anaheim, CA, 3/2002

National Ambassador's Program, 2001-2002

Migraine Management, Annual Pain Seminar, Carlsbad, CA, 9/2001

Web Presentation, Headache and Neuro-imaging, www.virtual-headache.com, 8/2001

Neurology in OB-GYN, North American Women's, HealthCare Forum, Los Angeles, CA, 6/2001

New Horizons in Migraine Prevention, Grand Rounds Presentation, JFK Memorial Hospital, Indio, CA, (CME), 5/2001

New Horizons in Migraine Prevention, Grand Rounds, Desert Regional Hospital, Hemet, CA (CME), 5/2001

New Horizons in Migraine Prevention, Grand Rounds, Eisenhower Hospital, Palm Springs, CA (CME), 5/2001

Update on Migraine Management: Case based studies, Pri-Med Regional Update Courses, Long Island, Philadelphia, St. Paul, San Francisco, Detroit, Phoenix, Seattle, Cincinnati, Baltimore (CME), 3/2001 - 12/2001

Second Neurology Annual Update, Course Director and Lecture, La Jolla, CA (CME), 2/2001

Controversies in Headache Management, San Diego Neurologic Society, (CME), 1/2001

Women's Issues in Migraine Diagnosis and Management, Las Vegas (CME), 12/2000

Principles of Migraine Management, Sharp Mission Park, Medical Education Meeting, Carlsbad, CA. (CME), 11/2000

Botox in Migraine Headache, Section of Neurology Meeting, Eugene, Oregon (CME), 11/2000

Migraine: Issues in Diagnosis and Treatment, St. Cloud, MN (CME), 8/2000

Coding Issues in the MS patient, Biogen Regional MS Update Course, 7/2000

Migraine 2000: Issues in Diagnosis and Management, Kern County PA and RNP Association, Bakersfield, CA, (CME), 7/2000

Migraine and Hormones, CME Program for Bakersfield Women's Health Group (CME), 7/2000

Invited Speaker: Neuro-imaging in Headache, Report of the US, Headache Consortium, Plenary Session, American Headache, Society Annual Scientific Meeting, Montreal, Canada (CME), 6/2000

Headache: Diagnosis and Diagnostic Testing, Ambassador Program, Long Beach, CA (CME), 9/2000

LECTURE ACTIVITIES/CME CONTINUED

Migraine Management: Case based studies, Pri-Med Regional, Update Courses, Houston, Philadelphia, St. Paul, San Francisco, Atlanta, Cincinnati, Baltimore (CME), 5/2000-12/2000

Migraine Basics for OB-GYN, Las Vegas OB-GYN Association (CME), 4/2000

Migraine Diagnosis and Management, Kern County Nurse Practitioner/Physician Assistant Association, Bakersfield, CA (CME), 3/2000

The Headache Dilemma, Grand Rounds Presentation, Great Falls Hospital, Great Falls, MT (CME), 3/2000

Migraine Management: What do patients really want?, Pri-Med Regional Primary Care Meeting, Long Beach, CA, 4/2000

Efficacy of the Triptans, Merck Regional Consultants Meeting, Williamsburg, VA, 3/2000

Basics of Headache Diagnosis and Management, First Annual Neurologic Update for Primary Care, La Jolla, CA, (CME), 2/2000

The ABC's of Multiple Sclerosis Treatment, First Annual Neurologic Update for Primary Care, La Jolla, CA (CME), 2/2000

Basics in Diagnosis and Management of Migraine, Kaiser Dept. of OB-GYN, Baldwin Park, CA., (CME), 1999

Coding and Management in the Multiple Sclerosis Clinic, Biogen Regional Consultants Meeting, 1999

Neuro-Ophthalmology in Stroke Rehabilitation, Stroke Rehabilitation: Evidence Based and Practical, Management, Los Angeles, CA, ASNR and AAN, 1999

Practice Issues in Rehabilitation: Coding and Reimbursement, Issues: Evidence Based and Practical Management, Los Angeles, CA. ASNR and AAN, 1999

An Ophthalmologist's Guide to Migraine, Visions in Ophthalmology, Scripps Memorial Hospital, 1999

Capitation in Neurology, The Southern California Experience, AAN Advanced Practice Management Course, 1999

Course Director, Basic Practice Management for Neurologists, American Academy Neurology Regional Courses, Atlanta, San Diego, Dallas and New York, 1999

Course Director: "Basic Practice Management for Neurologists," American Academy of Neurology Annual Meeting, Boston, Minneapolis, Toronto and San Diego, 1999

The Visual Phenomena of Migraine, UCSD Neurology Grand Rounds, 1998

Treatment of Spasticity, San Diego Chapter, National Multiple Sclerosis Society, 1998

Treatment Options in MS, San Diego Chapter, National Multiple Sclerosis Society, 1998

Migraine, Diagnosis and Treatment, Four Seasons, Carlsbad, CA, 1998

LECTURE ACTIVITIES/CME CONTINUED

Neuroimaging in Primary Headache Disorders, St. Joseph Hospital, Orange, CA, 1998

Practice Mergers and Acquisitions, American Academy, Regional Course, San Diego, CA, 1998

Practice Mergers and Acquisitions, American Academy of Neurology, Annual Meeting, Minneapolis, 1998

Diagnosis and Treatment of Alzheimer's Disease, Sharp Mission Park Medical Clinic CME Program
Oceanside, CA

Basics of Managed Care and Healthcare Integration, American Academy of Neurology Annual Meeting, Boston,
Minneapolis, 1997

Neuro-Ophthalmology in the Era of Managed Care, 11th Annual Alumni Conf., Howard Univ., 1997

Coding Issues in Neurology, Department of Neurology, University of Mississippi, 1996

Managed Care, Department of Neurology, University of Mississippi, 1996

Giant Cell Arteritis - the Good, the Bad, and the Ugly, 10th Annual Alumni Conference, Howard
Univ., 1996

Managed Care and Healthcare Integration, Neurology Society Course on Managed Care at Yale
University, 1996

Healthcare Integration, American Academy of neurology Annual Meeting, San Francisco,
California, 1996

Managed Care Issues for Neuro-Ophthalmologists, North American Neuro-Ophthalmology
Society, 1996

Ophthalmic Manifestations of Cat Scratch Disease, 9th Annual Alumni Conference, Howard
University, Washington, D.C., 1995

Reimbursement Issues in Neuroimaging, Columbia University Course on Functional Brain
Imaging, 1995

Basics of Managed Care, American Academy of Neurology Annual Meeting, Seattle, Washington,
1995

When is Ocular Migraine Not Ocular Migraine? Scientific Session, American Academy of
Ophthalmology, 1994

An Ophthalmologist's Guide to Migraine, Course Director, American Academy of Ophthalmology
Annual Meeting, 1985-1993

Acute Visual Loss: Neuro-Ophthalmic Considerations, Associate Instructor, American Academy
of Ophthalmology National Meeting, 1991-1993

Neuro-Ophthalmic Features of Lyme Disease, Neuro-Ophthalmology Update Course, Fairfax
Hospital, 1990

LECTURE ACTIVITIES/CME CONTINUED

Course Director, Neuro-Ophthalmology Update Course, Fairfax Hospital, 1990

MRI of the Cavernous Sinus, Presentation at North American Neuro-Ophthalmology, Society Meeting, Steamboat Springs, Colorado, 1990

Painful Horner's Syndrome, Department of Ophthalmology, Grand Rounds, Georgetown University, 1989

Transient Visual Loss, American Academy of Ophthalmology Regional Update Course, 1987

Neuro-Ophthalmology for the Emergency Room Physician. A Guide to Cerebrovascular disease, Kaiser Permanente Emergency Medical Annual Review, Long Beach, CA, 1986

PUBLICATIONS AND PAPERS

Frishberg, BM. "Miscellaneous Tumors of Neuro-Ophthalmologic Interest, In Walsh and Hoyt's Clinical Neuro-Ophthalmology 6th Edition, Ed. Miller, N, and Newman, N. Williams and Wilkens, Baltimore MD, 2004.

Frishberg, BM. A New Formulation of Dihydroergotamine (DHE) is Effective for Sustained Relief in the Acute Treatment of Migraine", Headache 43:5, 525, Abstract F17, May 2003.

Haneline, MT, Croft AC, Frishberg BM, "Association of internal carotid artery dissection and chiropractic manipulation". The Neurologist. Jan;9(1):35-44. 2003

Solomon, Seymour, Frishberg, Benjamin, Hu, Henry et al, "Migraine Treatment Outcomes with Rizatriptan in triptan-Naïve Patients: A Naturalistic Study. Clinical Therapeutics 23, 886-900, 2001.

Solomon, Seymour, Frishberg, Benjamin, Hu, Henry et al. , Improved Migraine Treatment Outcomes with Rizatriptan in triptan Naïve Patients, Proc of the American Headache Society, June, 2000. Headache, Supplement 2000.

McCrary DC, Simel DL, Frishberg BM, Gray RN. Evidence Report: Neuroimaging of Patients Presenting with Headache in the Primary Care Setting. Prepared by Duke University Center for Health Policy Research: January 5, 1999; Raleigh, NC.

Frishberg BM, "Neuroimaging in Presumed Primary Headache Disorders, Seminars of Neurology, 1997

Frishberg, BM, Clinical Examination of the Trigeminal Nerve. In Walsh and Hoyt's Clinical Neuro-Ophthalmology 5th edition. Edited by N. Miller and N. Newman, Williams and Wilkens, Baltimore, 1997.

Frishberg, BM, "To Lose a Hunt", Proc. Frank Walsh Society, March 1996

Frishberg, BM. The Utility of Neuroimaging in the Evaluation of Headache in Patients with Normal Neurological Examinations. Neurology 1994: 1191-1197.

Pearl, PL, Frishberg, BM. Migraines in Children. In: Decision Making in Pediatric Ophthalmology. Edited by CW Cibis, AC Tongue, MS Isern. Mosby Year Book, Philadelphia, 1993.

PUBLICATIONS AND PAPERS

Palestine, AG, Frishberg, BM. Macular Edema in Acquired Immunodeficiency Syndrome - Related Microvasculopathy American Journal of Ophthalmology, 111:770-771, 1991

Sapin, LR, Frishberg, BM, Sherman, JL. MRI and Neuropsychological Correlates of Dementia in Binswanger's Disease. Archives of Clinical Neuropsychology, 5:89-97,1990

Frishberg, BM, Spector, RH. Abdominal Mass and Bilateral Orbital Masses. Proc. Frank B. Walsh Society, 1986.

Frishberg, BM, Spector, RH. Neuro-Ophthalmologic Clues to Parasellar Disease. Contemporary Neurosurgery, Vol. 7, No. 19, 1985.

Frishberg, BM, Seybold, M. Optic Atrophy Followed by a Swollen Optic Disk. Proc. Frank B. Walsh Society, 1984

Milstein, J, Frishberg, BM. The Effect of Neonatal Hypothyroidism on Immature Rat Brain Mitochondrion. Proc Am Academy of Neurology, 1974

RESEARCH ACTIVITIES

Alzheimer's Disease

Suloctidil study for Alzheimer's Disease, Monsanto, Principal Investigator, 1987

D97-019 "Metrifonate investigational nationwide trial (M.I.N.T.)", Principal Investigator, 1997

Parke-Davis 979-14 "A 26-week, randomized, double-blind, placebo-controlled, parallel-group, multi-center with a sustained active phase study of Milameline (CI-979/RU 35926) in patients with probable Alzheimer's Disease", Sub-Investigator, 1995 - 1996.

Parke-Davis 979-16 "Open label extension of "A 26-week, randomized, double-blind, placebo-controlled, parallel-group, multi-center with a sustained active phase study of Milameline (CI-979/RU 35926) in patients with probable Alzheimer's Disease", Sub-Investigator, 1996-1997

970-68-23 "A 16-week randomized, double-blind, placebo-controlled parallel-group, dose-response multi-center study of Tacrine (CI-970) once-a-day formulation (Tacrine GITS) with a 16-month open-label extension in patients with dementia of the Alzheimer's type", Sub-Investigator, 1996 - 1997

970-68-23 "Open label extension of "A 16-week randomized, double-blind, placebo-controlled parallel-group, dose-response multi-center study of Tacrine (CI-970) once-a-day formulation (Tacrine GITS) with a 16-month open-label extension in patients with dementia of the Alzheimer's type", Sub-Investigator, 1996-1997.

GAL-INT-11 "A randomized double blind placebo-controlled trial to evaluate the efficacy and safety of galantamine in subjects with mild cognitive impairment (MCI) clinically at risk for development of clinically probably Alzheimer's Disease", Sub-Investigator, 2001

TVP1012-A001-201- A 1-Year, double-blind, randomized, placebo-controlled study of Rasagiline 1 mg and 2 mg added to Aricept 10 mg daily in patients with mild to moderate dementia of the Alzheimer's type., Sub-Investigator, 2004

Alzheimer's Disease Continued

VP-AD-301 "A Double-Blind Placebo-Controlled Study of VP4896 for the Treatment of Mild to Moderate Alzheimer's Disease". Principal Investigator, 2006.

PRX-03140 "A Randomized, Double-Blind, Placebo Controlled, Phase IIa Study to Assess the Short-Term Effects of PRX-03140 Alone and in Combination with Donepezil in Subjects with Mild Alzheimer's Disease". Sub- Investigator, 2006

Epilepsy

3310101018 "A multi-center, double-blind, placebo-controlled, randomized, parallel-group trial of Rufinamide as adjunctive therapy in patients with inadequately controlled primary generalized tonic-clonic seizures", Principal Investigator, 1997 - 2001

M92-813 "Tiagabine HCl administration in patients with epilepsy", Sub-Investigator, 1995 – 1998

E2080-A001-301 "A Double-Blind, Placebo-Controlled, Parallel-Group Study of Rufinamide Given as Adjunctive Therapy in Patients with Refractory Partial Seizures". Principal Investigator. 2006

Migraine

S2b-350 "Imitrex (Sumatriptan Succinate) injection, post-marketing surveillance study", 1995

CN115-0038—22 "An open label long-term trial evaluating the safety of BMS-180048 150mg in the treatment of patients with migraine headache with or without aura." 1996.

ALN-INT-16 "The efficacy and safety of Alniditan (1.4 or 1.8 mg SC) vs. Sumatriptan (6 mg SC) in the acute treatment of migraine: A randomized, double-blind, placebo-controlled, single-dose trial." 1996

S2WA3003 "A randomized, double-blind, placebo-controlled, crossover study to evaluate the safety and efficacy of oral Naratriptan in the acute treatment of four migraine attacks." 1995-96

ALN-USA-18 "Open evaluation of the long-term efficacy, safety and tolerability of 1.4 mg SC Alniditan in the acute treatment of migraine attacks." 1996-97.

SUMA4015 "A randomized, double-blind, placebo-controlled study to evaluate the impact of sumatriptan injection on workplace productivity loss due to migraine" (Imitrex), 1996 - 1997.

VML 251/96/07 "A double-blind placebo-controlled, parallel-group study to assess the efficacy and safety of up to two doses of VML251 in the acute treatment of migraine." (Vanguard) 1997

1042-0117.12 " A Double-Blind, Parallel, Placebo-Controlled, Single-Dose, Outpatient Study of Ganaxolone for the Treatment of Migraine With or Without an Aura", 1998-2000

S2WA 3001 - "A Randomized, Double-Blind, Placebo-Controlled, Dose Ranging Study to Evaluate the Efficacy and Safety of Four Doses of Oral Naratriptan in the Acute Treatment of a Single Migraine Attack", 1995

S2WA 1007 - "A Study to Evaluate the Pharmacokinetics and Pharmacodynamics of Oral Naratriptan in Migraine Subjects", 1995-1996

Migraine Continued

CN102-021 - "A Randomized, Double-Blind Trial Comparing the Safety and Efficacy of Butorphanol Tartrate Nasal Spray Versus Acetaminophen and Codeine Phosphate Capsules Versus Placebo in Patients with Acute Migraine Headache Pain", 1996

SUMA 4014 - "A Double-Blind, Placebo-Controlled Parallel Group Study to Evaluate the Efficacy of a Second Sumatriptan Succinate Tablet (25 or 50 mg.) In the Acute Treatment of Migraine", 1996-1997

311c90 - "A Double Blind, Randomized Comparison of Zolmatriptan and Sumatriptan in the Acute Treatment of Multiple Migraine Headaches", 1997

VML251/90/06 - "A Double Blind, Placebo Controlled, Parallel Group Study to Assess the Efficiency and Safety of a Single Dose of VML251 (2.5mg) in the Acute Treatment of Migraine", 1997

LY303870 - "Dose Comparison of LY303870 in the Long Term Prophylaxis of Migraine" 1997

191622-024-00 "A Multi-center, Double-Blind, Randomized, Placebo-Controlled, Parallel Group Study of the Safety and Efficacy of three dosages of BOTOX[◆] (Botulinum Toxin, Type A) Purified Neurotoxin Complex for the Prophylactic Treatment of Migraine Headaches." 2000

A1601022 "A Multi-center Trial to Evaluate the Efficacy, Tolerability and Subject Satisfaction with Eletriptan in the Treatment of Migraine Headache Attacks in Neurology Practices." 2000

M/3275/0008 "Oral Almotriptan (LAS31416) vs. Oral Sumatriptan in a double Blind, Randomized, Parallel Group Study of Cost-Effectiveness and Quality of life in Migraine." 1988-1999

M/3275/0011 "A long-term open label safety study of Almotriptan 12.5 mg orally in migraine patients. 1988-1999

CN115-038-031 - "An Open Label Long-Term Trial Evaluating the Safety of BMS-180048 150 mg in the Treatment of Patients with Migraine Headache With or Without Aura" – 1996

191622-037-01 "A Multi-center, Double-Blind, Randomized, Placebo-Controlled, Parallel Group Study of BOTOX[®] (Botulinum Toxin Type A) Purified Neurotoxin Complex of the Prophylactic Treatment of Migraine Headaches in the Episodic Migraine Population."

191622-038 "A Multi-center, Randomized, Placebo-Controlled, Parallel Group Study of BOTOX[®] (Botulinum Toxin Type A) Purified Neurotoxin Complex for the Prophylactic Treatment of Headaches in the Chronic Headache Population."

CAPSS-155 "A Comparison of the Efficacy and Safety of Topamax[®] (Topiramate) Tablets Versus Placebo for the Prophylaxis of Migraine." 2001

MT100-308 – "A Double Blind, Placebo-Controlled, Study to Evaluate the Safety and Efficacy of MT 100 Versus Over-Encapsulated Sumatriptan in Subjects with Acute Migraine Attacks." – Sub-Investigator – 2001

MT100-402 – "A Double Blind, Randomized Placebo-Controlled, Study to Evaluate the Safety and Efficacy of MT 100 for the Treatment of Migraine in Subjects Who Are Intolerant to 5-HT Agonists or Have Cardiovascular Risk Factors." – Sub-Investigator – 2001

Migraine continued

MT100-401A – “A Double Blind, Randomized, Placebo-Controlled Study to Evaluate the Safety and Efficacy of a Two Tablet Dose of MT 100 for Treatment of Migraine in Imitrex® Non-responders.” – Sub-Investigator – 2001.

MT 300-302 – “A Randomized-Double-Blind, Placebo Controlled Evaluation of the Safety and Efficacy of MT 300 in the Acute Treatment of Migraine”, Sub-Investigator, 2002-2003

SUM40298 – “A Randomized, Double-Blind, Placebo-Controlled, Single Attack, Parallel-Group Evaluation of the Efficacy of Sumatriptan 50mg Tablets versus Placebo in the Treatment of Self-Described and/or Physician-Diagnosed Sinus Headaches that Meet International Headache Society (HIS) Criteria for Migraine Headache”, Sub-Investigator, 2001-2002

VML251/00/02 – “A Double-Blind, Placebo-Controlled, Three-Way Crossover clinical Study to Assess the Safety and Efficacy of Two Dose Regimens of Frovatriptan, Compared with Placebo, in Preventing Menstrually Associated Migraine (MAM) Headaches”, Sub-Investigator, 2002-2003

311CUS/0022 “A Multi-center, Randomized, Placebo-Controlled, Double-Blind, Parallel-Group Trial to Evaluate Early Efficacy and Tolerability of Zolmitriptan (Zomig) Nasal Spray in the Acute Treatment of Adult Subjects with Migraine”, Sub-Investigator, October 2002-January 2003

E2020-A001-211 “A 20-week Multi-center, Randomized, Double-Blind, Placebo-Controlled, Preliminary Study to Evaluate The Efficacy and Safety of Two Fixed Doses (5mg and 10 mg) of Donepezil Hydrochloride (E2020) in Migraine Prophylaxis”, Sub-Investigator, July 2002-November 2002.

SUM40299 “A Randomized, Double-Blind, Placebo-Controlled, Parallel-Group Study to Evaluate the Efficacy and Tolerability of Oral Sumatriptan 25mg, 50mg, and 100mg tablets for a Single Moderate or Severe Headache in Adults Diagnosed with Migrainous Disorder (HIS 1.7) – October 2002

MT300-401- “A Multi-center Randomized, Single-Blind, Evaluation of Three Injectable Anti-Migraine Drugs”, Sub-Investigator, 2003

CL1776-005 – “A Phase 2 Safety and Efficacy Study of NPS 1776 for the Acute Treatment of Migraine Headaches” – Principal Investigator – 2004

001 – “A Randomized, Evaluator-Masked Trial to Evaluate the Efficacy of Botox Compared with Depakote in Migraine Prevention” – Sub Investigator – 2004

3420AG1 – “Program to Assess Treatment Strategies: A Botox Observational Program” – Principal Investigator – 2003

MT400-303 “An Open-label, Repeat Dose Study of the Safety of Combo Formulation in the Treatment of Multiple Episodes of Acute Migraine Over 12 Months”, Principal Investigator, 2004

065-00- (Maxalt) “A Multicenter, Double-Blind, Randomized, Parallel, Placebo-Controlled Study to Examine the Efficacy of Rizatriptan 10-mg Tablet Administered Early During a Migraine Attack While the Pain is Mild”, Principal-Investigator, 2004

Migraine continued

MT400-301 (POZEN) "A Double-Blind, Multicenter, Randomized, Placebo-Controlled Single Dose Study To Evaluate The Safety And Efficacy Of Trexima In The Acute Treatment Of Migraine Headaches", Principal-Investigator, 2004

VML251-3MRM/02 "A double-blind, placebo-controlled, parallel group study, with an open-label extension phase, to assess the efficacy, tolerability and safety of oral frovatriptan in the prevention of menstrual related migraine (MRM) headaches in a "difficult to treat" population. Sub-Investigator, 2005.

E2007-A001-210- A Randomized, Double-Blind, Placebo-Controlled, Multi-Center, Parallel-Group Study to Evaluate the Efficacy and Safety of E2007 in Migraine Prophylaxis. Principal Investigator, 2005.

A Single-Center, Double-Blind Comparison of BOTOX® (Botulinum Toxin Type A) and DEPAKOTE® for the Prophylactic Treatment of Migraine Headaches- Pilot Study. Sub-Investigator 2004

"A Single-Center, Double-Blind Comparison of Botox and Topiramate for the Prophylactic Treatment of Chronic Migraine Headache". Sub-Investigator 2005

1602 "A Multi-Center, Randomized, Single-Blind, Controlled Study to Obtain Preliminary Safety and Efficacy Data for ONS Treatment of Chronic Migraine Headache". Sub-Investigator, 2005

191622-080 "A Multicenter Study Evaluating the Efficacy and Safety of Botox Purified Neurotoxin complex as Headache Prophylaxis In Migraine Patients with 15 or More headache Days per 4-Week Period in a 24 week, Double-Blind, Randomized, Placebo Controlled, Parallel-Group Phase Followed by a 32 Week Open-Label Phase". Principal-Investigator 2006

TRX103632/635 "A Randomized, Double-Blind, Multi-Center, Placebo Controlled, Cross-Over Study to Determine the Consistency of Response for TREXIMA (Sumatriptan 85mg/Naproxen Sodium 500mg) in the Acute Treatment of Multiple Migraine Attacks". Principal Investigator 2006

TRX106573 "A Randomized, Double-Blind, Multi-Center, Placebo-Controlled, Cross-Over Study of Trexima® in Migraine Subjects Who Report Poor Response or Intolerance to Relpax®". Sub-Investigator, 2006

NL-2006-001 " A Phase III, Randomized, Double-Blind, Parallel Group, Sham-Controlled Study Evaluating the Efficacy and Safety of Non-Invasive Non-Repetitive Transcranial TMS Stimulation (TMS) For the Acute Preemptive Treatment of the Aura Phase of Migraine Headache". Principal Investigator 2007

Multiple Sclerosis

BL01-3112 - "Phase III, Double-Masked, Placebo-Controlled Study to Evaluate the Safety and Efficacy of Two Doses of Betaseron in Patients with Secondary-Progressive Multiple Sclerosis" - 1996-1997

6002i - "Phase II Study of Hu23F2G in Acute Exacerbation of Multiple Sclerosis" - 1997

Copolymer I Protocol 01-9002 - "A Long-Term Open Label Study to Evaluate the Safety of Copolymer I and to Extend Its Availability to Patients with Relapsing-Remitting Multiple Sclerosis" - 1994-1997

Multiple Sclerosis Continued

CAMMS223-A1, A Phase II, Randomized, Open-Label, Three-Arm Study Comparing Low- and High-Dose Rebif in Patients with Early, Active Relapsing-Remitting Multiple Sclerosis, Sub-Investigator, 2003

9006- (TEVA) "A Multi-Center, Randomized, Double-Blind, Parallel Group Study to Evaluate the Efficacy, Tolerability, and Safety of 40mg of Copaxone in the Treatment of Relapsing-Remitting Multiple Sclerosis Patients", Sub-Investigator, 2004

FTY20D2309 "A 24-Month Double-Blind, Randomized, Multi-Center, Placebo Controlled, Parallel Group Study Comparing the Efficacy and Safety of 0.5 mg and 1.25 mg Fingolimod (FTY720) Administered Orally Once Daily Versus Placebo in Patients with Relapsing-Remitting Multiple Sclerosis". Sub-Investigator, 2006

CFTY720D2302 "A 12-Month Double-Blind, Randomized, Multi-Center, Active-Controlled Parallel-Group Study Comparing the Efficacy and Safety of 0.5 mg and 1.25 mg Fingolimod (FTY720) Administered Orally Once Daily Versus Interferon β -1a (Avonex[®]) Administered I.M. Once Weekly in Patients with Relapsing-Remitting Multiple Sclerosis". Sub-Investigator, 2007

Parkinson's Disease

HL18317 "An open, randomized, multi-center study to assess the efficacy and safety of 1.25mg O.D. and 5 mg B.D. (or 10mg O.D.) Zydys Selegiline in the control of symptoms of Parkinson's Disease in patients stabilized in a regimen including Selegiline." 1996 - 1998.

"A/SEL/97/026, A randomized, double-blind, parallel-group study to compare the safety and efficacy of Zydys Selegiline 1.25 to 2.5 mg Q.D. with placebo as an adjunct in the management of Parkinsonian patients being treated with Levodopa who exhibit deterioration in the quality of their response to this therapy. " 1998.

Z/SEL/95/008 EXTENSION – "An open, multi-center parallel group continuation study to assess the safety of 1.25mg qd and 10mg qd Zydys Selegiline in the control of symptoms of Parkinson's disease in patients stabilized on a regimen including Selegiline." 1998.

RP54274X-320 "A Phase III Multi-center, Double-Blind, Parallel-Group, Placebo Controlled Study of the Effect of Riluzole 50 mg BID or 100 mg BID for Two Years on the Progression of Parkinson's Disease in 1050 Patients." 2001

RP54274X-321 "A Phase III Multi-center, Double Blind, Parallel-Group Placebo Controlled Study of the Effect of Riluzole 50 mg BID or 100 mg BID on the Progression of Parkinson's Disease in Patients Treated With L-DOPA or Dopamine Agonist" 2001

NR15440/M35016 "Non-comparative Open Label Study to Identify Tasmar Dosage Regimen in Non-Fluctuating Parkinson's Disease Patients Treated with Sinemet; with Follow-Up Extension of Tasmar", 1997

666E-CNS-0075-021 "A Phase III, Double-Blind, Placebo-Controlled, Randomized Study Comparing the Efficacy, Safety, and Tolerability of Sumanriole Versus Placebo or Ropinirole in Patients with Early Parkinson's Disease." *Sub-Investigator*

Parkinson's Disease

M/2760/0011 "PNU-95666E: Open-Label, Long Term, Flexible Dose Study of Safety, Tolerability and Therapeutic Response in Patients with Parkinson's Disease." Sub-Investigator – 2003

DA2APD-0075-031 "A Phase III, Double-blind, Fixed Dose Response Study Comparing the Efficacy and Safety of Sumanitrole vs. Placebo In Patients with Early Parkinson's Disease." Sub-Investigator – 2003

1198.100 NS2330 "A Fourteen-Week Placebo-Controlled Dose-Response Efficacy and Safety Study of NS 2330 in Early Parkinson's Disease Patients (Study for Proof of Concept in Early Parkinson's Disease of a Triple Reuptake Inhibitor, NS2330 / SCEPTRE)"

S308-3-003 "A Multi-Center, Randomized, Double-Blind, Parallel-Group Placebo and Pramipexole Controlled Study to Assess Efficacy and Safety of SLV-308 Monotherapy in the Treatment of Patients with Early Stage Parkinson's Disease". Sub-Investigator, 2006

Pain

BOTOX 144-8051 "A multi-center, double-blind, placebo-controlled, parallel, graduated-dose clinical trial of Botox (botulinum toxin type A) purified neurotoxin complex for the treatment of chronic low back muscle spasm." 1996-97.

BOTOX-145-8051 "A multi-center, double-blind, placebo-controlled, parallel, graduated-dose clinical trial of Botox (Botulinum Toxin Type A) purified neurotoxin complex for the treatment of chronic low back muscle spasm" 1997.

49,774-013 "Morphine with Dextromethorphan: double-blind crossover comparison of morphine with dextromethorphan and morphine in chronic pain." 1997-1998.

A1A20004 "A Multi-center, Randomized, Double-Blind, Placebo-Controlled, Parallel Group Study to Evaluate the Efficacy and Tolerability of a 14 Day Treatment Course of GW493838 50mg Compared to Placebo in Subjects with Peripheral Neuropathic Pain. November 2002 – 2003.

Stroke

GAIN-America- Protocol GLYA3002: An International, Multi-Center, Randomized, Double-Blind, Placebo-Controlled, Parallel-Group Study to Assess over 3 Months the Safety, Efficacy and Pharmacoeconomics of an 800mg Loading Dose and Five 200mg Maintenance Doses of GV150526 in the Treatment of Patients with a Clinical Diagnosis of Acute Stroke

03062k1-200-US "A randomized, double-blind, placebo-controlled parallel group multicenter trial of Fiblast®." October 1997- 1999.

SA-CMZ-009 " The Clomethiazole Acute Stroke Study in Ischemic Stroke (CLASS-I): A double blind, parallel group, multinational, multicenter study of the efficacy and safety of i.v. Clomethiazole compared to placebo in patients with acute ischemic stroke." 1998-2000

SA-CMZ-0010 " The Clomethiazole Acute Stroke Study in acute intracerebral hemorrhage (CLASS-H): A double blind, parallel group, multinational, multicenter study of safety of i.v. Clomethiazole compared to placebo in patients with acute intracerebral hemorrhage." 1998-1999

Stroke continued

SA-CMZ-0011 “The Clomethiazole Acute Stroke Study in t-PA Treated Ischemic Stroke (CLASS-T): A double blind, parallel group, multinational, multicenter study of safety of i.v. Clomethiazole compared to placebo in patients treated with t-PA (tissue plasminogen activator) for acute ischemic stroke.” 1998-1999

EFC7331 - **MATCH** – “Management of Atherthrombosis with Clopidogrel in High-Risk Patients with Recent Transient Ischemic Attack or Ischemic Stroke: A Randomized, Double-Blind Study, with 18 months of Follow-up.” – Sub Investigator – 2001-2002.

YM872 “A Randomized, Double-Blind, Placebo-Controlled, Sequential Dose-Escalation Study to Evaluate the Safety of YM872 in Patients with Acute Ischemic Stroke.” 1998-2003

CHARISMA EFC4505 “Clopidogrel for High Atherothrombotic Risk and Ischemic Stabilization, Management and Avoidance (CHARISMA).” 2002

BOTOX vs ZANAFLEX “ Placebo Controlled Trial of BOTOX ® versus Zanaflex ® for the Treatment of Subjects with Post- Stroke Upper Limb Spasticity” – Principal Investigator – March 2003

100282 Bayer Study “A Randomized, Double-Blind, Placebo-Controlled Trial to Evaluate the Efficacy, Safety, Tolerability, and Pharmacokinetic/Pharmacodynamic Effects of a Targeted Exposure of Intravenous Repinotan in Patients with Acute Ischemic Stroke” Sub-Investigator, 2003

9.159 “PRoFESS – Prevention Regimen for Effectively avoiding Second Strokes: A double-blind, active and placebo controlled study of Aggrenox vs. clopidogrel + aspirin, with and without Micardis” – Sub Investigator – 2004 – Present

SA-NXY-0007: “A Double-Blind, Randomized, Placebo Controlled, Parallel Group, Multicenter, Phase IIb/III Study to Assess the Efficacy and Safety of Intravenous NXY-059 in Acute Ischemic Stroke” – Sub Investigator – 2004 – Present

F7ICH-1641 A Randomised, Double-Blind, Placebo Controlled, Multi-Centre, Parallel Groups Confirmatory Efficacy and Safety Trial of Activated Recombinant Factor VII (NovoSeven®/Niasase® in Acute Intracerebral Haemorrhage, -Sub-Investigator, 2005

NTI-ASP-0502 “A Randomized, Double-Blind, Placebo Controlled Study of Ancrod (Viprinex) in Subjects Beginning Treatment within 6 Hours of the Onset of Acute Ischemic Stroke”. Sub-Investigator, 2006

CD-0125 “Safety and Efficacy of NeuroFlo Technology in Ischemic Stroke”. Sub-Investigator, 2006

NTS-INT06-007 “ A Double-Blind, Randomized, Controlled, Parallel Group, Multi-Center, Pivotal Study to Assess the Safety and Effectiveness of the Treatment of Acute Ischemic Stroke with the NeuroThera® Laser System within 24 Hours from Stroke Onset”. Sub-Investigator, 2007

Other

GAL-COG-3002- "An Analysis of Mortality in Subjects who participated in Three Studies of Galantamine in Mild Cognitive Impairment", Sub-Investigator, 2004

101468/205: A 12-Week, Double-Blind, Placebo Controlled, Parallel Group Study to Assess the Efficacy and Safety of Ropinirole XR (Extended Release) in Patients with Restless Legs Syndrome, Sub-Investigator, 2005

E2020-A001-412: A One Year, Multicenter, Randomized, Double-Blind, Placebo-Controlled Evaluation of the Efficacy and Safety of Donepezil Hydrochloride (E2020) in Subjects with Mild Cognitive Impairment, Sub-Investigator, 2005