

DUKE UNIVERSITY MEDICAL CENTER
CURRICULUM VITAE
For Permanent Record and the
Appointments and Promotions Committee
Date Prepared: 12/28/09

Name: **Richard S. Bedlack M.D. Ph.D.**

Primary academic appointment: Neurology

Primary academic department: Medicine

Secondary appointment: None

Present academic rank and title: Associate Professor

Date and rank of first Duke Faculty appointment: July 1, 2000, Associate

Medical Licensure: North Carolina License # 2000-00183
Date of License 12/30/1999

Specialty certifications and dates: American Board of Neurology & Psychiatry # 50147
Date of Board Certification 1/7/2002

Date of birth: December 30, 1965 Place: Hartford, CT USA

Citizen of: USA

Visa Status: N/A

Education:

<u>Institution</u>	<u>Degree</u>	<u>Dates</u>
Cromwell High School	Diploma	9/80-6/84
College of William & Mary	B.S.	7/84-6/88
University of Connecticut	Ph.D. Neuroscience	7/88-6/95
University of Connecticut	M.D.	7/88-6/95
Duke Clinical Research Training Program	M.Sc.	7/00-7/03

Professional training and academic career:

<u>Institution</u>	<u>Position/Title</u>	<u>Dates</u>
Duke University	Medicine Intern	7/95-7/96
Duke University	Neurology Resident	7/96-7/99
Duke University	EMG Fellow	7/99-7/00
Duke University	Associate	7/00-7/02
Duke University	Assistant Professor	7/02-7/06
Duke University	Associate Professor	7/06-Present
Durham VA Hospital	Neurology Section Chief	7/02-Present
Pitt County Hospital	ALS Clinic Co-Director	11/08-Present

Consultant/speaking appointments:

Catfish Hunter ALS Clinic at Pitt County Memorial Hospital, Consultant and Co-Director
Metabolon Inc., Advisor
UCB Pharma Inc., Advisor
Medacorp, Advisor
Council of Health Care, Advisor

Lilly Inc., Speakers Board
Pfizer Inc., Speakers Board
Athena Diagnostics, Speakers Board

Scholarly societies:

Phi Beta Kappa Honor Society
Sigma Xi Science and Research Honor Society

Professional awards and special recognitions:

1999 AANEM Golseth Young Investigator Award, Runner-up
2004 Eun-Kyu Lee Award for Best Teacher of Clinical Neurology at Duke
2005, 2007 Duke Medical School Golden Apple Teaching Award Finalist
2006-2009 America's Best Doctors, America's Top Physicians Awards
2008, 2009 Leonard Palumbo Duke Faculty Achievement Award Finalist
2008, 2009 Duke Master Clinician/Teacher Award Finalist
2008 AAN Palatucci Fellowship Winner
2008 Triangle Health Care Hero Award for Innovative Care (Duke ALS Clinic)
2009 Duke University "Strength, Hope and Caring" Award
2009 AAN Viste Award for National Patient Advocate of the Year

National and International Meeting Sections Chaired:

2008 American Academy of Neurology, Session on Anterior Horn: Clinical Research

Organizations and participation:

ALS Research Group
Member 2005-Present
Scientific Advisory Board 2007-2009
Chair, Advocacy Subcommittee 2007-Present
Vice-Chair 2009
Chair-Elect for 2010
ALSUntangled Group
Member 2009-Present
Chair 2009
Spastic Paraplegia Foundation
Member 2006-Present
Scientific Advisory Board 2006-2007
Northeast ALS Consortium
Member 2004-Present
World Federation of Neurology Research Group on Motor Neuron Diseases
Member 2004-Present
Chair, Website Committee 2008-Present
VA ALS Registry Group
Minocycline Study Group
American Academy of Neurology
American Academy of Electromyography
Neuropathy Association
Editorial Board of the following journals:
Amyotrophic Lateral Sclerosis
Ad Hoc Reviewer for the following journals:
Emergency Medicine
Journal of Clinical Electrophysiology
Expert Review of Neurotherapeutics
JAMA
Muscle & Nerve
Neurology
Neurology India

Journal of Neurology
Annals of Neurology
Expert Review of Proteomics
Current Medical Chemistry

Data Safety Monitoring Boards for the following trials:

R(+)-Pramipexole for ALS (UVa coordinating site)
Minocycline for Huntington's Disease (Mass General coordinating site)
Ceftriaxone for ALS (Mass General coordinating site)

Publications (50 total in peer-reviewed journals):

Original Research

1. **Bedlack RS**, Wei M-d, Loew LM. Localized membrane depolarizations and localized calcium influx during electric field-guided neurite growth. *Neuron* 9:393-403;1992.
2. Gross E, **Bedlack RS**, Loew LM. Dual-wavelength ratiometric measurement of the membrane dipole potential. *Biophys. J.* 67:208-216;1994.
3. **Bedlack RS**, Wei M-d, Fox S, Gross E, Loew LM. Distinct electric potentials in neurite and soma membranes. *Neuron* 13:1187-1193;1994.
4. Ahearn G, **Bedlack RS**, Price DT, Robertson CN, Morgenlander JM. Transient lumbosacral polyradiculopathy during prostatectomy: Association with spinal stenosis. *Southern Medical Journal* 92:809-811;1999.
5. Verma A, **Bedlack RS**, Radke R, Vanlandingham K, Erwin CW. Succinylcholine-induced hyperkalemia and cardiac arrest: death related to an EEG study. *J. Clinical Neurophys* 16:46-50;1999.
6. **Bedlack RS**, Bertorini T, Sanders DB. Hidden Afterdischarges in Slow Channel Congenital Myasthenic Syndrome. *Journal of Clinical Neuromuscular Disease* 1(4):186-188;2000.
7. Brewer R, **Bedlack RS**, Massey E. Diabetic thoracic radiculopathy. *Pain* 105(3):509;2003.
8. **Bedlack RS**, Edelman D, Gibbs JW, Kelling D, Strittmatter W, Saunders AM, Morgenlander J. Apolipoprotein E genotype is a risk factor for neuropathy severity in diabetic patients. *Neurology* 60:1022-1024;2003.
9. **Bedlack RS**, Vu T, Hammans S, Sparr SA, Myers B, Morgenlander J, Hirano M. MNGIE Neuropathy: Five cases mimicking chronic inflammatory demyelinating polyneuropathy. *Muscle & Nerve* 29:364-368;2004.
10. Scherer K, **Bedlack RS**, Simel DL. Evaluation of simple office tests for diagnosis myasthenia gravis. *JAMA* 293:1906-1914;2005.
11. **Bedlack RS**, Matthew MC. Creatine for amyotrophic lateral sclerosis/motor neuron disease (protocol). *The Cochrane Database of Systematic Reviews*. Issue 2, 2005.
12. **Bedlack RS**, Simel D, Bosworth H, Samsa G, Tucker-Lipscomb B, Sanders DB. Quantitative myasthenia gravis score: Assessment of responsiveness and longitudinal validity. *Neurology* 64:1968-1970;2005.
13. Tabarrak K, Madden J, **Bedlack RS**. Dysarthria and dysphagia from light chain amyloidosis. *Neurology* 65:1671;2005.
14. Gordon PH, Moore DH, Miller RG, Florence JM, Verheijde JL, Doorish C, Hilton JF, Spitalny GM, Macarthur RB, Mitsumoto H, Neville HE, Boylan K, Mozaffar T, Belsh JM, Ravits J, **Bedlack RS**, Graves MC, McCluskey LF, Barohn RJ, Tandan R; for the Western ALS Study Group. Efficacy of minocycline in patients with amyotrophic lateral sclerosis: a phase III randomised trial. *Lancet Neurol.* 6(12):1045-53;2007.
15. Allen KD, Kasarskis EJ, **Bedlack RS**, Rozear MP, Morgenlander JC, Sabet A, Sams L, Lindquist JH, Stat M, Harrelson ML, Coffman CJ, Oddone EZ. The national registry of veterans with amyotrophic lateral sclerosis. *Neuroepidemiology* 30:180-190;2008.
16. Gordon PH, Cheung Y, Levin B, Andrews H, Doorish C, Macarthur R, Montes J, Bednarz K, Florence J, Rowin J, Boylan K, Mozaffar T, Tandan R, Mitsumoto H, Kelvin E, Chapin J, **Bedlack RS**, Rivner M, McCluskey L, Pestronk A, Graves M, Sorenson E, Barohn R, Belsh J, Lou J, Levine T, Sapersteikn D, Miller R, Scelsa S, and the Combination Drug Selection Trial Study Group. A novel, efficient, randomized selection trial comparing combinations of drug therapy for amyotrophic lateral sclerosis. *Amyotrophic Lateral Sclerosis* 9:212-222;2008.

17. Rosenfeld J, King K, Jackson CE, **Bedlack RS**, Barohn RJ, Dick A, Phillips LH, Chapin J, Gelinas DF and Lou JS. Creatine monohydrate in ALS: Effects on strength, fatigue, respiratory status and ALSFRS. *Amyotrophic Lateral Sclerosis* 9:266-272;2008.
18. **Bedlack RS**, Pastula DM, Welsh E, Pulley D, Cudkowicz M. Scrutinizing enrollment in ALS clinical trials: Room for improvement? *Amyotrophic Lateral Sclerosis* 9:257-265;2008.
19. Cudkowicz ME, Andres PL, MacDonald SA, **Bedlack RS**, Choudry R, Brown RH et. al. for the Northeast ALS and the National VA ALS Research Consortiums. Phase 2 Study of Sodium Phenylbutyrate in ALS. *Amyotrophic Lateral Sclerosis* 10:99-106;2009.
20. **Bedlack RS**, Pastula DM, Hawes J, Heydt D. Open label pilot trial of levetiracetam for cramps and spasticity in patients with motor neuron diseases. *Amyotrophic Lateral Sclerosis* 10:210-215;2009.
21. Pastula D, Coffman C, Allen K, Oddone E, Kasarskis E, Lindquist J, Morgenlander J, Norman B, Rozear M, Sams L, Sabet A, **Bedlack RS**. Factors associated with survival in the national registry of veterans with ALS. *Amyotrophic Lateral Sclerosis* 10:332-339;2009.
22. Sommer D, **Bedlack RS**. "The missing mitochondrial link." *Federal Practitioner* 26:24-30;2009.
23. Qureshi M, **Bedlack RS**, Cudkowicz M. Lyme disease serology in amyotrophic lateral sclerosis. *Muscle & Nerve* 40(4):626-629;2009 .
24. Khishchenko N, Allen K, Coffman C, Kasarskis E, Lindquist J, Morgenlander J, Norman B, Oddone E, Rozear M, Sabet A, Sams L, **Bedlack RS**. Time to diagnosis in the national registry of veterans with ALS. *Amyotrophic Lateral Sclerosis*. 2010 (in press).
25. Schellenberg K, Tucci D, **Bedlack RS**. Roaring in the ears: patulous eustacian tube in bulbar als. *Amyotrophic Lateral Sclerosis* 2010 (in press).

Invited Reviews, Reviews, Editorials, Position Papers

1. **Bedlack RS**, Sanders DB. How to handle myasthenic crisis. *Postgraduate Medicine* 107(4): 211-222;2000.
2. **Bedlack RS**, Strittmatter WJ, Morgenlander JC. APOE and neuromuscular disease: A critical review of the literature. *Archives of Neurology* 57 (11):1561-5;2000.
3. **Bedlack RS** , Moore AR. Differential diagnosis of focal sensory loss. *Emergency Medicine*: 39-44;2002.
4. **Bedlack RS**, Sanders DB. Steroid treatment for myasthenia gravis: steroids have an important role. *Muscle & Nerve* 25 (1):117-121;2002.
5. Armon C, Guiloff R, **Bedlack RS**. Limitations of inferences from observational databases in amyotrophic lateral sclerosis. *ALS and Other Motor Neuron Diseases* 3(3):109-112;2002.
6. **Bedlack RS**, Sanders DB. On the concept of myasthenic crisis. *Journal of Clinical Neuromuscular Disease* 4(1):40-42;2002.
7. Burke P, **Bedlack RS**. Acute neuropathies. *Emergency Medicine*:15-27;2004.
8. Scherer K, **Bedlack RS**. How to assess and treat neuropathic pain. *Emergency Medicine*:37-43;2005.
9. Pastula D, **Bedlack RS**. Amyotrophic lateral sclerosis: Progress since Lou Gehrig. *Federal Practitioner* 24:66-71;2007.
10. **Bedlack RS**, Traynor BJ, Cudkowicz ME. Emerging therapies for motor neuron disease/amyotrophic lateral sclerosis. *Expert Opinion on Emerging Drugs* 12:229-252;2007.
11. **Bedlack RS**, Aggarwal S. Amyotrophic lateral sclerosis update: Signs of progress, reasons for hope. *Continuum* 15;2009.
12. **Bedlack RS**, Silani V, Cudkowicz M. "IPLEX and the telephone game: the difficulty is separating myth from reality on the internet. *Amyotrophic Lateral Sclerosis* 10:182-184;2009.
13. **Bedlack RS**, Hardiman O. "ALS untangled: Investigating alternative and off-Label ALS therapies using twitters and tweets." *Amyotrophic Lateral Sclerosis* 10:129-130;2009.

Book Chapters

1. **Bedlack RS** and Cudkowicz M. Clinical trials in progressive neurological diseases: Recruitment, enrollment, retention and compliance; in *Frontiers in the Neurosciences Volume 25: Clinical Trials in the Neurosciences*. Karger Publishing (Switzerland) 2009.

2. Marcus J, **Bedlack RS**. Primary Lateral Sclerosis; in *Dysphagia in Rare Conditions*. Plural Publishing (San Diego) 2009.
3. **Bedlack RS**, ElHusseini N, Atassi N, Mhoon J, Gutmann L, Heiman-Patterson T, Rudnicki S, Shefner J. Alternative therapies for amyotrophic lateral sclerosis; in *ALS: A Guide for Patients and Families*. Demos Publishing (New York) 2009.
4. **Bedlack RS**, Torres S, Pastula D. IVIG-Responsive Upper and Lower Motor Neuron Disease with NP-9 Antibodies, Persisting Long After Infliximab Therapy; in *Companion to Peripheral Neuropathy, Illustrated Case Reports Plus*. 2010 (in press).

Letters

1. **Bedlack RS**, Maragakis N, Heiman-Patterson T. Lithium may slow progression of amyotrophic lateral sclerosis, but further study is needed. *PNAS Online*, April 16, 2008.

Group-authored (formally acknowledged within a group authorship):

1. Gwinn K, Corriveau R, Mitsumoto H, Bednarz K, Brown R, Cudkowicz M, Gordon P, Hardy P, Kasarskis E, Kaufmann P, Miller R, Sorenson E, Tandan R, Traynor B, Nash J, Sherman A, Mailman M, Ostell J, Bruijn L, Cwik L, Rich S, Singleton A, Refolo L, Andrews J, Zhang R, Conwit R, Keller M, and **the ALS Research Group**. Amyotrophic lateral sclerosis: An emerging era of collaborative gene discovery. *PLoS ONE* v.2(12); 2007.
2. Cudkowicz ME, Shefner JM, Simpson E, Grasso D, Yu H, Zhang H, Shui A, Schoenfeld D, Brown R, Wieland S, Barber J, and **the Northeast ALS Consortium**. Arimoclomol at dosages up to 300 mg/day is well tolerated and safe in amyotrophic lateral sclerosis. *Muscle & Nerve* 38; 837-844 2008.
3. Schmidt S, Allen K, Loiacono V, Norman B, Stanwyck C, Nord K, Williams C, Kasarskis E, Kamel F, McGuire V, Nelson L, Oddone E, and **the VA ALS Registry Group**. Genes and environmental exposures in veterans with amyotrophic lateral sclerosis: the Geneva study. *Neuroepidemiology* 30; 191-204:2008.
4. **The ALSUntangled Group**. ALSUntangled Update 1: investigating a bug (Lyme disease) and a drug (Iplex). *Amyotrophic Lateral Sclerosis* 10:248-250;2009.
5. **The ALSUntangled Group**. ALSUntangled Update 2: investigating the Hickey Wellness Center. *Amyotrophic Lateral Sclerosis* 2009 (in press).
6. Lou JS, Moore D, Gordon PH, Miller R and **the Minocycline Study Group**. Correlates of quality of life in ALS: Lessons learned from the minocycline study. *Amyotrophic Lateral Sclerosis* 2009 (in press).
7. **The ALSUntangled Group**. ALSUntangled Update 3: investigating stem cell transplants at the hospital san jose tecnologico de monterrey. *Amyotrophic Lateral Sclerosis* 2010 (in press).

Selected abstracts (each presented at a meeting):

1. **Bedlack, RS**, Wei, M-d and Loew, LM. External electric fields alter intracellular calcium distribution. *Biophys. J.* 59, 598a, 1991.
2. **Bedlack, RS**, Wei, M-d and Loew, LM. DC fields affect N1E-115 neurite growth, membrane potential and intracellular calcium distribution. *J. Cell Bio.* 115, 215a, 1991.
3. **Bedlack, RS**, Wei, M-d and Loew, LM. Effects of DC fields > 1 V/cm on N1E-115 neurite growth, intracellular calcium and membrane potential. *Proceedings of the First World Congress for Electricity and Magnetism in Biology and Medicine* 143a, 1992.
4. **Bedlack, RS**, Wei, M-d and Loew, LM. Electric field-biased N1E-115 growth cone filopodial protrusions are inhibited by verapamil. *Biophys. J.* 64, 101a, 1993.
5. **Bedlack, RS**, Amarante, P, Wei, M-d and Loew, LM. Electric field-guided neurite growth: Is calcium influx necessary and sufficient? *J. Neurosci.* 19(2), 1293a, 1993.
6. Gross, E, **Bedlack, RS** and Loew, LM. Dual-wavelength ratiometric fluorescence measurement of the membrane dipole potential. *Biophys. J.* 66, 387a, 1994.
7. **Bedlack, RS**, Wei, M-d, Fox, S, Gross, E and Loew, LM. Endogenous electric fields within the neuronal plasmalemma: Non-uniformities suggesting differential voltage dependence. *Biophys. J.* 66, 387a, 1994.
8. **Bedlack, RS**, Bertorini, T and Sanders, DB. The distribution of repetitive discharges in slow channel congenital myasthenic syndrome: a case report. *Muscle & Nerve* 1999.

9. **Bedlack, RS**, Bertorini, T and Sanders, DB. Distinction between slow channel congenital myasthenic syndrome and myasthenia gravis: a case report. *Clinical Neurophys.*110, S195, 1999.
10. **Bedlack, RS**, Massey, JM, Sanders, DB. Differences in the incidence of myasthenic crisis in two modern populations: a potential clue to improving the care of patients with myasthenia gravis. Annual Scientific Session of the Myasthenia Gravis Foundation of America, Inc. 1999.
11. **Bedlack, RS**, Kelling, D, Edelman, D, Gibbs, JW, Strittmatter, W, Morgenlander J. Apolipoprotein E genotype is a risk factor for diabetic neuropathy. American Neurological Association 2002.
12. **Bedlack, RS**, Vu, T, Hammans, S, Sparr, S, Myers, B, Morgenlander, Hirano, M. MNGIE neuropathy: 5 cases mimicking CIDP. American Academy of Neurology 2003.
13. **Bedlack, RS**, Simel, D, Bosworth, H, Sanders, D. Characterization of the quantitative myasthenia gravis score. Annual Scientific Session of the Myasthenia Gravis Foundation of America, Inc. 2003.
14. Rosenfeld, J, King RM & Creatine Study Group (**Bedlack** a member). Multi-center clinical trial of creatine monohydrate in patients with ALS. Abstracts from the 16th International Symposium on ALS/MND.
15. **Bedlack, RS** and Torress, S. Multifocal motor neuropathy with upper motor neuron signs. *Muscle & Nerve* 34, 514, 2006.
16. Cudkowicz, M, Andres, P, Schoenfeld, D, Zhang, H, Choudry, R, **Bedlack, R**, et. Al. Safety and dose escalating study of oral sodium phenylbutyrate in subjects with ALS. *ALS and Other Motor Neuron Diseases*, 156, 2006.
17. **Bedlack RS**, Bellanich, M, Bromberg M, Cudkowicz, M. Levetiracetam treatment for spasticity in motor neuron diseases: a case series. *ALS and Other Motor Neuron Diseases*, 7(S1), 111, 2006.
18. Cudkowicz, M, Shefner, J, Simpson, E, Grasso, D, Sherman, A, Yu, H, Poliner, A, Balakrishna, S, Schoenfeld, D, Zhang, H, Finklestein, D, Taft, J, Watson, M, Dibernardo, A, Pulley, D, Verma, A, Koggan, D, Steele, J, **Bedlack R**, et. Al. A multicenter, dose ranging safety and pharmacokinetics study of arimoclomol in ALS. *ALS and Other Motor Neuron Diseases*, 7(S1), 113, 2006.
19. Karsarskis, E, **Bedlack, RS**, Rozeat, MP, Morgenlander, JC, Sabet, A, Sams, L, Lindquist, JH, Coffman, CJ, Oddone, EZ, Allen KD. A Telephone screening method to identify ALS cases in a population: validation against the medical record review in the veterans affairs ALS registry. *ALS and Other Motor Neuron Diseases*, 7(S1), 156, 2006.
20. **Bedlack RS**, Hawes J, Pastula D, Heydt D, Burke P. A pilot trial of levetiracetam for cramps, spasticity and neuroprotection in patients with motor neuron diseases. *Amyotrophic Lateral Sclerosis* 8(S1):148;2007.
21. Gordon PH, Cheung YK, Levin B, Andrews H, Doorish C, Macarthur RB, Montes J, Bednarz K, Florence J, Rowin J, Boylan K, Mazaffar T, Kelkar I, Mitsumoto H, Chapin J, **Bedlack RS**, Rivner M, Mccluskey LF, Pestronk A, Graves M, Sorenson E, Barohn RJ, Belsh JM, Lou JS, Levine T, Saperstein D, Miller RG, Scelsa S, Tandan R, The Combination Drug Selection Trial Study Group. Combination drug selection trial in amyotrophic lateral sclerosis. *Amyotrophic Lateral Sclerosis* 8(S1):58;2007.
22. Pastula D, Allen K, Coffman C, Kasarskis E, Lindquist J, Morgenlander J, Norman B, Oddone E, Sams L, **Bedlack RS**. Military veterans with ALS: factors associated with survival. *Amyotrophic Lateral Sclerosis* 8(S1):210;2007.
23. **Bedlack RS**, Pastula D, Welsh E, Pulley D, Cudkowicz ME. Scrutinizing enrollment in ALS clinical trials: room for improvement? *Neurology* 70:A344;2008.
24. Pastula D, Allen K, Coffman C, Kasarskis E, Lindquist J, Morgenlander J, Norman B, Oddone E, Sams L, **Bedlack RS**. The survival of US military veterans with ALS. *Neurology* 70:A344;2008.
25. **Bedlack RS**. Collaborative strategies to prospectively quantify and improve enrollment in ALS trials. NEALS 2008.
26. Mendoza M, Moore DH, Miller RG, Florence J, Verhejde JL, Gordon P and **the Minocycline Study Group**. ALS outcome measures: insensitive to change? *Amyotrophic Lateral Sclerosis* 9(S1):145;2008.
27. **Bedlack RS**. Online surveys of pals reveal their opinions on als clinics and research studies.

Amyotrophic Lateral Sclerosis 10 (S1):67;2009.

28. **Bedlack RS**, Hardiman O. Update on alsuntangled:a global scientific effort to investigate alternative and off-label treatment options for patients with als. *Amyotrophic Lateral Sclerosis* 10 (S1):67;2009.

29. **Bedlack RS**, Hepner A, Kay R. Enrollment in the STAR trial. *Amyotrophic Lateral Sclerosis* 10 (S1):68;2009.

Teaching and Mentoring:

Duke Undergraduate

Mentoring students in the “shadow internship” program 2002-Present

Medical School

“Weakness” lectures in Body and Disease 2005, 2006

“Myasthenia Gravis” lectures in Neurobiology 2003-2005

“Amyotrophic Lateral Sclerosis” lectures in Body & Disease 2003-2009

“Localizing Lesions” lab in Body & Disease 2008

“ALS Update” lecture to Student Interest Group in Neurology 2007

“Neuropathy” lectures in Neurology Clerkship 2001-2004

“Myopathy and Myasthenia” lectures in Neurology Clerkship 2001-2004

Faculty Mentor, Daniel Pastula

3rd year research project, 2006-2007

Road Map Scholar 2007

Masters in Clinical Research at Duke 2006-2008

5 Publications together

Winner, AAN Student Prize for Excellence in Neurology 2009

Matched UCSF Neurology 2009

Faculty Co-Mentor, Bryan Simmons

3rd year research project 2009-2010

Winner, Howard Hughes Fellowship 2009-2010

Mentoring 3 or 4 first-year students in outpatient clinics every year, 2001-present

Duke Neurology Program

Director of Clinical Neuroscience Grand Rounds 2002-2009

Developed “speakers fund” of \$75,000 in 6 years

Established new “Catfish Hunter” memorial lectureship in 2004

“Silent Period” Grand Rounds in 2000

“Diabetic Neuropathy” Grand Rounds in 2002

“Testing the QMG Score” Grand Rounds in 2003

“ALS Research at Duke” Grand Rounds in 2006

“ALS Advocacy” Grand Rounds in 2009

“Peripheral Neuropathy” lectures 2001- 2007

“Motor Neuron Disease” lectures 2001-2009

“Focal Neuropathies” lectures 2004, 2006

“Neuromuscular Problems in the ICU” lecture 2004

“Interpreting Nerve Conductions” lecture 2005

“Palliative Care in ALS” lecture 2005

Faculty Mentor for Dr. Paul Burke 2001-2004

Faculty Mentor for Dr. Natan Khishchenko 2004-2007

Faculty Mentor for Dr. Andrew Graber 2007-present

Duke Clinical Research Institute (DCRI)

“ALS Update” Lunch and Learn 2009

Duke Medicine Program

“ALS, What Can Duke Offer” Grand Rounds 2004

VAMC Emergency Medicine Lectures on “Neuropathy” 2002, 2003, 2004

“Neuropathy Overview” Noon Conference 2009

Duke Geriatrics Program

“Peripheral Neuropathy” Geriatrics Grand Rounds 2003

Duke Rheumatology Program

“Electromyography Overview” Rheumatology Grand Rounds 2002
 EMG preceptorships for fellows 2003, 2004
 “ALS Update” Rheumatology Grand Rounds 2007
 Duke Neurosurgery Program
 One-day EMG preceptorships for residents 2004
 Duke Anesthesiology Program
 “Diabetic Neuropathy” Lectures 2005, 2006
 Monthly EMG preceptorships for fellows 2005-2009
 Anesthesiology Grand Rounds “Painful Diabetic Neuropathy” 2009
 Duke Neuromuscular Fellowship Program
 Neurophysiology Conferences:
 “ALS Update” 2000, 2005, 2007, 2008
 “Diabetic Neuropathy” 2005
 “Neuropathy Work Up” 2000
 “ICU Neuromuscular Consult” 2001, 2006
 “Focal Neuropathies” 2003
 “Hereditary Neuropathies” 2002, 2004
 Duke Endocrinology Program
 “Diabetic Neuropathy” Endocrine Grand Rounds 2005, 2007
 “Diabetic Neuropathy” Endocrine Television Show 2006
 Duke Palliative Care Program
 “ALS: Now and Soon at Duke” 2005, 2009
 Teaching Outside Duke University Medical Center
 Northeast Medical Center CME Conference on APOE and Neuromuscular Disease 2001
 Northeast Medical Center CME Conference on Diabetic Neuropathy 2002
 Duke’s Annual Hilton Head Medicine Symposium CME Lectures 2003:
 “Neuropathy Overview,” “Focal Neuropathies,” “Neuropathic Pain,” “Cramps”
 Wilson Medical Center Grand Rounds on “Peripheral Neuropathy” 2003
 North Carolina Medical Society sponsored CME lecture at Raleigh Neurology 2004:
 “Painful Neuropathy”
 “North Carolina Now” Television Program on “Post Herpetic Neuralgia” 2004
 “ALS, What Can Duke Offer” lectures for support groups around NC 2004, 2005
 “Post Herpetic Neuralgia” lecture for Cary Senior Center 2004
 “The People’s Pharmacy” National Radio Program on “Diabetic Neuropathy” 2005
 Invited Community Lecture, Lancaster South Carolina, “ALS” 2005
 Maria Parham Hospital Grand Rounds “Neuropathic Pain” 2005
 “Spellbound” Fundraiser Guest Speaker, “ALS Update” 2006
 Drexel Department of Neurology Grand Rounds “Diabetic Neuropathy Update” 2006
 ALS Hope Foundation, Philadelphia Pennsylvania, Keynote Speaker “ALS Update” 2006
 New Hanover Medical Center Grand Rounds, “Neuromuscular Update” 2006
 Duke’s Annual Hilton Head Medicine Symposium CME Lectures 2006:
 “Diabetic Neuropathy Update,” “ALS Update”
 “The Story” National Public Radio Program on “ALS” 2006
 “Talk of the Town” WNCT 1070AM Radio Program on “ALS” 2006
 Catfish Classic Keynote Speaker “ALS: Progress Since Lou Gehrig” 2006,2007,2008
 ECU Medicine Grand Rounds “Diabetic Neuropathy Update” 2006
 Guest on “House Calls” WHRV 89.5FM Radio for “ALS Update” 2006
 Keynote speaker for MDA/ALS Expo for “ALS Update” 2006
 Guest on “The Story” WUNC/NPR for “Incurably Hopeless” 2006
 Keynote Speaker, Philadelphia ALS Hope Foundation 2007, 2008
 Invited Community Lecture, Myrtle Beach South Carolina, “ALS” 2007
 Keynote speaker for MDA “Imagine 2007” Gala, 2007
 Keynote speaker for ALSA Triangle Support Group, 2007
 Keynote speaker for SPF Foundation Annual Meeting 2007, “Primary Lateral Sclerosis”
 Wadsworth Seminar, Albany New York “ALS Update”, 2007
 Invited speaker “Triangle Walk to Defeat ALS” 2007

Invited speaker "Race for the cure" to benefit SPF Foundation 2007
 Invited speaker "Down East ALS Walk" 2007
 University of Arizona, Department of Neurology Grand Rounds 2007 "ALS Update"
 North Carolina Neurological Society 2008 Keynote Speaker "ALS Update"
 ALS Hope Foundation, Philadelphia Pennsylvania, Keynote Speaker "ALS Update" 2008
 ECU Medicine Grand Rounds "ALS Update: Reasons for Hope" 2008
 Invited Community Lecture, Myrtle Beach South Carolina, "ALS Update" 2008
 Crozier/Chester Hospital Grand Rounds, "Progress in ALS, Reasons for Hope" 2008
 Invited speaker, "2008 Support Group Facilitators' Conference"
 Invited speaker North Carolina "2008 Quest for the Cure"
 WNPR Hartford CT, Radio interview "What's new in ALS and PLS" 2008
 Wilmington NC ALS Support Group "ALS Update" 2008, 2009
 Asheville NC ALS Support Group "ALS Update" 2008
 Tee'd Off At ALS Keynote Speaker, "Hot Topics in ALS" 2008
 American Academy of Neurology Podcast "PLS" 2008
 Mariah Parham Hospital Grand Rounds "ALS Update" 2008
 Triangle ALS Walk Keynote Speaker "What's hot in ALS" 2008
 Fayetteville ALS Walk Keynote Speaker "What's hot in ALS" 2009
 Invited Speaker, Fayetteville ALS Support Group "ALS Update" 2009
 Norfolk-Sentara Hospital Grand Rounds "Progress in ALS" 2009
 Keri B. Still Conference Featured Speaker "Progress in ALS" 2009

Areas of research interest:

Amyotrophic Lateral Sclerosis
 Optimizing Access to and Enrollment in ALS Research
 Susceptibility and prognostic factors
 Biomarkers
 Symptomatic and disease-modifying treatments
 Myasthenia Gravis
 Outcome measures
 Secondary Peripheral Neuropathies (Diabetic Neuropathy, Drug Induced Neuropathy)
 Susceptibility and prognostic factors including ApoE allele type
 Treatments

External support-gifts, grants, contracts:

Past:

2000-2002: Quantitative Myasthenia Gravis Score: Assessment of responsiveness and longitudinal validity (\$50,000). This prospective study, funded by the Myasthenia Gravis Foundation, measured key properties of an instrument called the Quantitative Myasthenia Gravis Score, which has become the main outcome measure used in myasthenia clinical trials. I designed this study, wrote the grant, and acted as principal investigator at 5% effort.
 2002-2005: A Trial of Creatine for Amyotrophic Lateral Sclerosis (\$50,000). This was a large, multi-center, double-blind, placebo controlled phase 3 trial of ultra pure creatine for patients with ALS. It was funded by Avicena, NIH and NCCAM. I was a site investigator at 5% effort.
 2005-2006: A Trial of Raniristat for Diabetic Neuropathy (\$90,000). This was a large, multi-center, double-blind, placebo controlled phase 3 trial of raniristat for patients with diabetic peripheral neuropathy. It was funded by Dainippon Pharmaceuticals. I was a site investigator at 5% effort.
 2005-2006: A Trial of Arimocloamol for Amyotrophic Lateral Sclerosis (\$70,000). This was a small, multi-center, double-blind, placebo controlled phase 2 trial of arimocloamol for patients with ALS. It was funded by the CytRX Corporation. I was a site investigator at 5% effort.

2004-2007: A Trial of Minocycline for Amyotrophic Lateral Sclerosis (\$50,000). This was a large, multi-center, double-blind, placebo controlled phase 3 trial of minocycline for patients with ALS. It was funded by NIH. I was a site investigator at 5% effort.

2005-2007: A Trial of Sodium Phenylbutyrate for Amyotrophic Lateral Sclerosis (\$50,000). This was a small, multi-center, double-blind, placebo controlled phase 2 trial of sodium phenylbutyrate for patients with ALS. It was funded by the Veterans Affairs Medical Center. I was a site investigator at 5% effort.

2006-2007: Open-Label Extension of Arimoclomol for Amyotrophic Lateral Sclerosis (\$25,000). This was a small, multi-center, open label extension of a prior phase 2 trial of arimoclomol for patients with ALS. It was funded by the CytRX Corporation. I was a site investigator at 5% effort.

2006-2007: A Cocktail/Selection Trial for Amyotrophic Lateral Sclerosis (\$12,000). This was a small, multi-center, double-blind, comparison phase 2 trial. A cocktail of high dose creatine with minocycline was compared to a cocktail of high dose creatine with celcoxib in a selection design for patients with ALS. It was funded by the NIH. I was a site investigator at 5% effort.

2006-2007: ALS DNA Banking (\$10,000). This was a prospective collection of clinical information and DNA on patients and controls, with the ultimate goal of determining the genetic defects that cause ALS or determine its progression. It was funded by the NIH. I was a site investigator at 1% effort.

2003-2008: VA ALS Registry. This project, funded by the Veterans Affairs Medical Center, involved creating a registry of all American Veterans diagnosed with amyotrophic lateral sclerosis. At 1% effort, I had multiple roles in this, including acting as an expert reviewer to confirm cases of ALS, and supervising specific epidemiology projects being carried out by medical students and residents.

2006-2008: A Trial of Levetiracetam for Motor Neuron Disease (\$150,000). This was a small, single-site, open-label phase 2 trial of levetiracetam for patients with motor neuron disease. It was funded by the UCB Pharma Corporation. I designed the study, wrote the grant and was principal investigator at 5% effort.

2006-2008: A Trial of Levetiracetam for Amyotrophic Lateral Sclerosis Cell Cultures (\$50,000). This was a basic research study that attempted to establish an ALS cell culture system, then use it to screen for neuroprotective drugs. Levetiracetam was one of the drugs we are screening. This was funded by the Murray-Abrams Foundation. I was a co-investigator at 5% effort. I helped design the experiments and wrote the grant, along with Dr. Jeffrey Deitch at Drexel.

2007-2008: Mary Duke Biddle Foundation Grant (\$1,900). This project will enhance the Duke ALS Library with educational materials for patients and families affected by ALS.

Present:

2008-Present: Safety Tolerability and Efficacy Results Trial of Zenvia for Patients with Pseudobulbar Affect (\$100,000). This is a large multi-center trial to determine if Zenvia can alleviate the symptoms of pseudobulbar affect in patients with ALS or MS. It is funded by Avanir Pharmaceuticals. I am a site investigator.

2008-Present: Validation of Biomarkers in ALS (\$30,000). This is a large multi-center study attempting to isolate protein biomarkers in blood and CSF that correlate with an ALS diagnosis, and with progression rate. It is funded by the ALS Association. I am a site investigator.

2009: A Clinical Trial of Lithium for Patients with Amyotrophic Lateral Sclerosis (\$40,000). This is a large, multi-center study which compares the progression of ALS in patients on lithium to that of patients on placebo. I am a site investigator.

Pending:

2010: Oxidative Stress in Patients with Amyotrophic Lateral Sclerosis and Primary Lateral Sclerosis (\$50,000). This is a small multi-center study which will track markers of oxidative stress across patients with ALS and PLS.

2010: Demonstration of a Brain Computer Interface for Veterans with ALS (\$3,500,000). This is a small multi-center study attempting to demonstrate the effectiveness of a brain computer interface device for restoring lost communication in patients with ALS. I am co-principal investigator. I helped design the experiments and helped write the grant, and will oversee the entire trial and lead one of the study sites.

Clinical activity-type of practice and estimate of time commitment:

- Chief, Durham VA Neurology Section and Director of VA EMG Lab-5/8 time commitment
 - Administrative duties
 - Diagnosis and management of neuromuscular diseases
 - Clinical research on neuromuscular diseases
 - Supervision and teaching of residents
- Director, Duke ALS Clinic-2/8 time commitment
 - Administrative duties
 - Diagnoses and multi-disciplinary management of ALS
 - Clinical research in ALS
- Director, Catfish Hunter ALS Clinic at Pitt County Memorial Hospital-1/16 time commitment
 - Administrative duties
 - Diagnoses and multi-disciplinary management of ALS
- Physician, Duke PDC Clinic-1/16 time commitment
 - General neurology consults
 - Supervision and teaching of residents and medical students

Participation in academic and administrative activities of the University and Medical Center:

- Director of Clinical Neuroscience Grand Rounds 2002-2009
 - Developed “speakers fund” of \$75,000
 - Established new “Catfish Hunter” memorial lectureship in 2004
- Duke ALS Clinic Director 2002-present
 - Built a state of the art ALS multi-disciplinary care team
 - PT, OT, Speech Therapy, Assistive Technology, Nutrition, Respiratory Therapy, Neuropsychology, Social Work all present
 - Developed a Duke ALS Clinical Trial program
 - Built a Duke ALS Translational Research Program
 - Integrated Duke ALS Clinic with existing Duke and Durham VAMC
 - Epidemiology and Genetics research
 - Built a Duke ALS Clinic Website www.dukealsclinic.com
 - Raised approximately \$100,000 in first 5 years to start clinic
 - Created an historic partnership between MDA and ALSA in 2007 to run clinic
 - Includes continual funding commitments of \$170,000 per year
 - Evaluated approximately 800 new ALS patients in this clinic since 2002
 - National and international referrals
 - Created a new ALS Clinic in Greenville, NC to optimize access to ALS care
 - Partnership with Catfish Hunter family, East Carolina Neurology, Pitt County Hospital and ALSA
 - Multi-disciplinary team similar to Duke
 - Unique care model recognized by Triangle Health Care Hero Award 2008
 - Efforts awarded with 2009 Viste Award from American Academy of Neurology
- Chief, Durham VA Neurology Section 2002-present
- Member DVAMC Pharmacy and Therapeutics Committee 2002-2007
- Advisory Board Member, Neurology Clinical Trials Organization 2005-2009

Date

Signature of Chair