

Vera Fridman, M.D.

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Office Address: **Neuromuscular Division**
 Department of Neurology
 12631 East 17th Ave
 Mail Stop B185
 Aurora, CO 80045
 Phone: (303) 724-2188
 Fax: (303) 724-2202

Place of Birth: **Saint Petersburg, Russia**

Education

8/1998-5/2002 B.S (magna cum laude) Brandeis University (Neuroscience)
8/2002-5/2006 M.D Tufts University

Postdoctoral Training and Fellowship Appointments

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|----------------|------------|-----------------------|---|
| 7/2006-6/2007 | Internship | Internal Medicine | University of Pennsylvania |
| 7/2007-6/2010 | Residency | Neurology | University of Pennsylvania |
| 7/2010-6/2011 | Fellowship | Neuromuscular Disease | Brigham and Women’s Hospital Massachusetts General Hospital |
| 9/2012- 9/2013 | Fellowship | Hereditary Neuropathy | Queen Square Hospital, London, UK University of Iowa Hospitals and Clinics University of Rochester Medical Center |

Faculty Academic Appointments

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| 7/2011-8/2016 | Assistant Professor | Neurology | Massachusetts General Hospital |
| 7/2012-8/2016 | Instructor | Neurology | Harvard Medical School |
| 1/2015-present | Assistant Professor | Neurology | University of Colorado- Anschutz Medical Campus |

Major Administrative Leadership Positions

International

2015- Junior Board Member Peripheral Nerve Society

Local

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| 2013-2014 | Associate Clerkship Director for The Neurology Core Clinical Clerkship | Harvard Medical School |
| 2009-2010 | Organized weekly Grand Rounds | University of Pennsylvania |
| 2008-2010 | Organized weekly Resident Report | University of Pennsylvania |

Honors and Prizes

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| May 2006 | The David L. Kasdon, M.D. Award for Achievement in Neurosciences | Tufts University School of Medicine | Academic Achievement |
| Sept 2008 | American Neurological Association Resident's Program Scholarship | American Academy of Neurology | |
| April 2010 | Penn Pearls Award for Excellence in Clinical Teaching | University of Pennsylvania | Selected for award by University of Pennsylvania Medical Students |
| May 2010 | Steven L. Galetta Resident Teaching Award | University of Pennsylvania | Selected for award by department of Neurology at the University of Pennsylvania |
| July 2013 | Loan Repayment Program Award | National Institutes of Health | |
| August 2017 | Loan Repayment Program Award | National Institutes of Health | |

Membership in Professional Organizations

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| 2007- present | American Academy of Neurology |
| 2012- present | Peripheral Nerve Society |
| 2016- present | American Neurology Association |
| 2017- present | American Diabetes Association |

Major Committee and Service Responsibilities

Departmental

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| 2015-present | Director of Neuromuscular Education for Residents | University of Colorado- Anschutz Medical Campus |
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National

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| 2012-present | Junior Member Peripheral Nerve Society | |
| 2017-present | Scientific Sessions Neuropathy Subcommittee Member | American Diabetes Association |

Licensure and Board Certification

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| 2013-2017 | Massachusetts Medical License, exp. 10/17 |
| 2015- | Colorado Medical License |

Specialty Certification

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| 2010 | American Board of Psychiatry and Neurology |
| 2017 | American Board of Electrodiagnostic Medicine |

Lectures By Invitation

- June 2010 Graduating Neurology Residents' Experience with use of Intravenous tPA for Acute Ischemic Stroke: a Ten Year Comparison. Hospital of the University of Pennsylvania Neurology Grand Rounds, Philadelphia, PA.
- March 2013 Natural History of Hereditary Sensory Autonomic Neuropathy Type I. American Academy of Neurology, 65th Annual Meeting, Platform Presentation.
- June 2013 Distribution of CMT Subtypes and Disease Burden in Patients Enrolled in the INC Natural History Study (6601) from 2009-2013, CMT Consortium Principle Investigators meeting, London, UK.
- July 2015 Distribution of CMT Subtypes and Disease Burden in Patients Enrolled in the INC Natural History Study (6601) from 2009-2013, Peripheral Nerve Society annual meeting platform presentation, Quebec, Canada.
- August 2015 Clinical Trials in Hereditary Neuropathy (CMT Association patient conference).
- January 2016 Update on Longitudinal Analysis in CMT, Inherited Neuropathies Consortium annual meeting, Miami, FL.
- April 2017 3rd Conference on Hereditary and Sensory Neuropathy, Sponsored by the Deater Foundation, Boston, MA.
- June 2017 Update on Clinical Trials in Hereditary Neuropathy (CMT Association patient conference).

Report of Local Teaching and Training

Teaching of Students in Courses

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| 2010 | Taught a section of the Brain and Behavior Neuroanatomy Course | University of Pennsylvania |
| 2011 | Taught MSII medical students the bedside neurological examination | Harvard Medical School |
| 2012 | Led Principal Clinical Experience Case Conferences in Neurology | Harvard Medical School |
| 2012-2014 | Led weekly bedside neurology rounds for medical students | Harvard Medical School |
| 2013-2014 | Associate Clerkship Director for Neurology Clerkship | Harvard Medical School |

Formal Teaching of Residents, Clinical Fellows and Research Fellows (post-docs)

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| 2010 | Organized and led a weekly conference for junior residents focusing on localization in neurologic disease | University of Pennsylvania |
| 2012 | Delivered lectures to neurosurgery residents on the basic principles on EMG | Massachusetts General Hospital |

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| 2013 | Delivered didactic lectures to Neuromuscular fellows | Massachusetts General Hospital |
| 2015- | Delivered didactic lectures to the residents and fellows | University of Colorado- Anschutz Medical Campus |
| 2015- | Director of Neuromuscular Education for residents | University of Colorado- Anschutz Medical Campus |
| 2016 | Delivered lecture on “ <i>Myopathy</i> ” to Pain Management and Rehabilitation Medicine residents and fellows | University of Colorado- Anschutz Medical Campus |
| 2016- | Delivered lecture on the “ <i>Diagnosis and Treatment of Hereditary and Immune Neuropathies</i> ” to Pain Management and Rehabilitation Medicine residents and fellows | University of Colorado- Anschutz Medical Campus |

Formally Supervised Trainees

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| 2012-2016 | Supervise fellows in neuromuscular disease performing inpatient and outpatient EMG studies | Massachusetts General Hospital |
| 2013-2016 | Supervise neurology residents in resident clinic | Massachusetts General Hospital |
| 2015- | Supervise fellows in neuromuscular disease performing inpatient and outpatient EMG studies | University of Colorado- Anschutz Medical Campus |

Formal Teaching of Peers (e.g., CME and other continuing education courses)

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| 2012 | Delivered two lectures (‘Specific Motor Conduction Studies’ and ‘Neuropathies Associated with Systemic Disease and Cancer’) for the Comprehensive Review in Neuromuscular and Electrodiagnostic Medicine Video CME course. | |
| 2013 | Delivered a lecture ‘Inherited Neuropathies’, for the Harvard Medical School Department of Continuing Education Child Neurology course. | |
| 2014 | Delivered three lectures (‘Specific Motor Conduction Studies’, Hereditary Neuropathies and ‘Neuropathies Associated with Systemic Disease and Cancer’) for the Comprehensive Review in Neuromuscular and Electrodiagnostic Medicine Video CME course. | |
| 2014 | Delivered a lecture (“Hereditary Neuropathy”) and lead multiple workshop in electrophysiology for the Electromyography and Neuromuscular Medicine course at Harvard Medical School. | |
| 2014 | Delivered a lecture (“Evaluation of Polyneuropathy”) to colleagues in Internal Medicine at Massachusetts General Hospital. | |
| 2015 | Delivered grand rounds lecture (“Hereditary Neuropathies: Why the Diagnosis Matters”) at the University of Colorado- Anschutz Medical Campus. | |
| 2016 | Delivered grand rounds lecture (“Neuromuscular Clinical Trials”) at the University of Colorado- Anschutz Medical Campus. | |
| 2016 | Delivered grand rounds lecture (“Antibody Mediated Neuromuscular Disease”) at the University of Colorado- Anschutz Medical Campus. | |

Clinical Trials:

Site PI, “Natural History Evaluation of Charcot Marie Tooth Disease (CMT) Types CMT1B, CMT2A, CMT4A, CMT4C, and Others,” August 2010-present. Supported by University of Iowa.

Co-PI, “Effect of L-Serine supplementation on clinical progression in HSAN1,” 2013-2015. Supported by Muscular Dystrophy Association.

Sub-Investigator, “A phase 3, multi-national, double-blind, randomized, placebo-controlled, stratified, parallel group, study to evaluate the safety, tolerability and efficacy of *Tirasemtiv* in patients with amyotrophic lateral sclerosis (ALS),” 8/2015-present. Supported by Cytokinetics, Inc.

Sub-Investigator, “Patient Assisted Intervention for Neuropathy: Comparison of Treatment in Real Life Situations (PAIN-CONTRoLS),” 11/2015-6/2017. Supported by Richard J. Barohn, MD at University of Kansas Medical Center

Sub-Investigator, “A Multicenter, Open-Label, Extension Study to Evaluate the Long-Term Safty and Efficacy of Patisiran in Patients with Familial Amyloidotic Polyneuropathy Who Have Completed a Prior Clinical Study with Patisiran” 6/2016- present. Supported by Alnylam Pharmaceuticals, Inc.

Sub-Investigator, “A Randomized, Double-Blind, Controlled, Parallel Group Study to Evaluate the Efficacy and Safety of FLX-787-ODT for Treatment of Muscle Cramps in Adult Subjects with Motor Neuron Disease” Pending. Supported by FLEXPharma, Inc.

Sub-Investigator, “A Randomized, Double-Blind, Controlled, Parallel Group Study to Evaluate the Efficacy and Safety of FLX-787-ODT for Treatment of Muscle Cramps in Adult Subjects with Charcot-Marie-Tooth Disease” Pending. Supported by FLEXPharma, Inc.

Co-Investigator, “Topiramate as a disease altering therapy for Cryptogenic Sensory Peripheral Neuropathy (CSPN)” Pending. Supported by NeuroNEXT.

Grant Support:

2013-2015:

Effect of L-Serine supplementation on clinical progression in HSAN1
Muscular Dystrophy Association Clinical Research Training Grant 260968

Site PI (\$180,000)

The major goal of this study is to evaluate the effect of high dose L-Serine supplementation on clinical progression in Hereditary Sensory Autonomic Neuropathy Type I using clinical examination, electrophysiology and skin biopsy.

2016-2017:

Defining the role of complex sphingolipids in the pathogenesis of diabetic neuropathy
Intramural Grant Program for Assistant Professors

Site PI (\$40,000)

The major goals of this study is to evaluate the levels of select sphingolipids, ceramides, sphingomyelins, as well as atypical deoxysphingolipids in the plasma and sciatic nerves and to evaluate the effect of treatment with L-serine on said levels.

Bibliography:

Peer reviewed publications in print or other media:

1. **Fridman V**, Galetta SL, Pruitt AA, Levine JM, Magnetic Resonance Imaging Findings Associated with Acute Liver Failure. *Neurology* 2009; 72:2130-2131.
2. **Fridman V**, Raser J, Brizzi K, Cucchiara B. Graduating US neurology residents' experience with tissue-type plasminogen activator for acute stroke: a 10-year comparison. *Stroke*. 2011; 42(10):2963-5.
3. McGuire JL, **Fridman V**, Wüthrich C, Koralnik IJ, Jacobs D. Progressive multifocal leukoencephalopathy associated with isolated CD8+ T-lymphocyte deficiency mimicking tumefactive MS. *J Neurovirol*. 2011; 17(5):500-3
4. **Fridman V**, David WS. Electrodiagnostic evaluation of lower extremity mononeuropathies. *Neurol Clin*. 2012; 30(2):505-28
5. **Fridman V**, Murphy SM. The Spectrum of Axonopathies: from CMT2 to HSP. *Neurology*. 2014 Aug 12;83(7):580-1
6. **Fridman V**, Oaklander AL, David WS, Johnson EA, Pan J, Novak P, et al. Patient reported natural history and biomarkers in Hereditary Sensory and Autonomic Neuropathy Type I. *Muscle Nerve*. 2015; 51: 489–495
7. **Fridman V**, Bundy B, Reilly MM, Pareyson MD, Bacon C, Burns J. CMT Subtypes and Disease Burden in Patients Enrolled in the Inherited Neuropathies Consortium Natural History Study: A Cross Sectional Analysis. *J Neurol Neurosurg Psychiatry*. 2015 Aug;86(8):873-8
8. **Fridman V**, Reilly MM, Inherited Neuropathies. *Semin Neurol*. 2015 Aug;35(4):407-23

Abstracts, Poster Presentations, and Exhibits Presented at Professional Meetings

1. Distribution of CMT Subtypes and Disease Burden in Patients Enrolled in the INC Natural History Study (6601) from 2009-2013, CMT Consortium Principal Investigators Meeting, London, UK. July 2015.
2. Disease Progression in Charcot-Marie-Tooth Disease Type 1A: A Longitudinal Study Using Rasch Analysis-Based Weighted CMT Neuropathy Scores, 6th International Charcot-Marie-Tooth and Related Neuropathy Consortium Meeting, Venice, Italy. Poster and oral presentation. Sept. 2016.
3. A Randomized, Double-Blind, Placebo-Controlled, Delayed-Start Trial to Evaluate the Safety and Efficacy of L-Serine on Subjects with Hereditary Sensory and Autonomic Neuropathy Type 1 (HSAN1), American Neurological Association, Baltimore, MD. Poster presentation. Oct 2016.
4. A Randomized, Double-Blind, Placebo-Controlled, Delayed-Start Trial to Evaluate the Safety and Efficacy of L-Serine in Subjects with Hereditary Sensory and Autonomic Neuropathy Type 1 (HSAN1), American Academy of Neurology 69th Annual Meeting, Boston, MA. Platform presentation. April 2017.
5. Pilot Study of Clinical Severity Score for Hereditary Neuropathy with Liability to Pressure Palsies, Peripheral Nerve Society 2017 Annual Meeting, Barcelona, Spain. Poster presentation. July 2017.
6. Disease Progression in Charcot-Marie-Tooth Disease Type 1A: A Longitudinal Study Using Rasch Analysis-Based Weighted CMT Neuropathy Scores, Peripheral Nerve Society 2017 Annual Meeting, Barcelona, Spain. Platform and oral poster presentation. July 2017.
7. A Randomized, Double-Blind, Placebo-Controlled, Delayed-Start Trial to Evaluate the Safety and Efficacy of L-Serine in Subjects with Hereditary Sensory and Autonomic Neuropathy Type 1 (HSAN1), Peripheral Nerve Society 2017 Annual Meeting, Barcelona, Spain. Oral poster presentation. July 2017.
8. Updates on Disease Progression in Charcot-Marie-Tooth Disease Type 1A, 1B, 1X, & 2A, Inherited Neuropathies Consortium 2017 Annual Meeting, Barcelona, Spain. Platform presentation. July 2017.