



Timeline of Progress in MS Research

This timeline highlights a selection of major landmarks in research into multiple sclerosis and the launch of programs to propel this research forward. These are only a few of thousands of advances in basic and clinical research that have laid the foundation for the rapid progress we're seeing today.

- 1421 First documented case of MS; St. Lidwina of Schiedam
- 1860-70 First studies of myelin and glial cells in brain tissue
- 1868 First correlation of MS clinical symptoms with central nervous system pathology; disease named "Sclerose en plaques" by Jean Martin Charcot
- 1869 First attempts to treat MS with gold chloride, zinc, sulfate, silver nitrate, strychnine and electrical stimulation (by Charcot)
- 1928 Discovery that myelin is produced by oligodendrocyte glial cells
- 1933 Acute experimental allergic encephalomyelitis (EAE) developed as model for MS
- 1936 Discovery that lymphocytes are involved in immune function
- 1943 First detailed description of the composition of myelin
- 1946 National MS Society USA Launched**
- 1947 First research grant to Elvin A. Kabat, MD
- 1950 National Institute of Neurological Diseases founded at National Institutes of Health through the work of the Society.
- 1950 Society funds first major survey of MS in the U.S. and Canada
- 1954 First Fellowship programs to train MS Scientists offered
- 1965 Society-convened panel of experts develops precise criteria for diagnosing MS
- 1969 Society co-funds research of steroid ACTH, which becomes the first drug shown to speed recovery from MS relapses
- 1974 Society convinces U.S. Congress to appoint commission on MS; resulting report increases federal funding for MS research
- 1980 Society funds first large trial of any form of interferon (interferon alpha), stimulating interest in interferons for treating MS
- 1981 First MRI pictures of a brain affected by MS are produced, revolutionizing MS diagnosis
- 1981 Identification of oligodendrocytes in MS brain with capability for regeneration of myelin
- 1982 Society partners with MS Society of Canada to convene international conference leading to standards for clinical trials in MS. The first controlled trial of natural human beta interferon in MS was an outgrowth of this meeting.
- 1983 Society supports studies of the anti-cancer agent mitoxantrone in an animal model of MS. In 2000, this drug (Novantrone) is approved by FDA to treat worsening MS
- 1984 First modern documentation of cognitive problems in MS
- 1987 Pilot Research Program established to quickly test novel, high-risk ideas

- 1987 Society establishes program to attract research proposals in patient management, care and rehabilitation
- 1988 Health Care Delivery and Policy Research Program established
- 1988 First demonstration, using MRI, that there is significant lesion activity in MS brain, even when the disease is clinically quiescent
- 1992 Society supports first comprehensive search for genes that make people susceptible to MS, initiating targeted research program in MS genetics
- 1993 Betaseron approved by FDA for relapsing-remitting MS, becoming first drug approved that effects underlying disease. The Society had supported the first study of any type of interferon in MS
- 1996 Society grantees find that aerobic exercise improves physical and psychological well-being in persons with MS
- 1996 Society develops international consensus on 4 clinical descriptions of M (relapsing-remitting, secondary-progressive, primary-progressive, progressive-relapsing)
- 1996 Avonex and Copaxone approved for relapsing-remitting MS. The Society funded early basic research underlying both therapies
- 1997 Zanaflex (tizanidine) approved for treatment of spasticity
- 1997 Sylvia Lawry Physician Fellowship Program established to train doctors in conducting clinical trials in MS
- 1998 Society launches targeted research initiative into gender differences in MS
- 1999 Society initiates first-ever longitudinal patient-focused database effort, the Sonya Slifka MS Longitudinal Study, providing quality of life and socioeconomic data
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- 1999/2000 Society initiates new clinical trial in estrogen treatment for women with MS and T-cell vaccination, both of which had their origins in early fundamental NMSS research
- 2000 Society initiates international collaborative research effort to better correlate the MS lesion with disease state and MRI: The MS Lesion Project
- 2000 Novantrone approved in U.S. for worsening forms of MS
- 2001 Society task force develops new diagnostic criteria for MS, which may shorten the time it takes a person to receive a firm diagnosis.
- 2001 Society collaborates with NIH on a \$20-million research initiative on gender-based differences in immune responses to increase understanding and treatments
- 2002 Rebif approved in U.S. to treat relapsing-remitting MS
- 2002 New Career Transition Fellowship Program launched to foster promising young MS investigators
- 2003 Society convenes international Task Force on Nervous System Repair to identify ways to speed development of repair strategies to restore nerve function in MS
- 2003 Society launches Collaborative MS Research Centers, 5-year awards to team up scientists and clinicians from a variety of fields to work on promising avenues
- 2003 Italian researchers transplant cells to enhance nerve tissue repair in mice with MS

- 2004 A pivotal study by a Society Fellow compares the clinical characteristics of MS among hundreds of African- and Caucasian Americans, showing that African-Americans tend to have a more aggressive course of
- 2005 Society launches Promise:2010 campaign to raise at least \$30 million for cutting-edge research and clinical care initiatives including 6 Pediatric MS Centers of Excellence
- 2005 Society launches initiative to speed nervous system repair and protection clinical trials in MS with 4 international teams funded for \$15.6 million
- 2005 "McDonald Criteria" for diagnosing MS updated by Society Task Force, speeding time to diagnosis for many
- 2005 Society collaborates with NIH, MS Society of Canada and University of Washington on international workshop to move MS rehabilitation research forward.
- 2006 Tysabri approved in U.S. for treating relapsing MS
- 2006 Long-term Care Caucus convened to create national agenda to foster spectrum of long-term care options for people with MS
- 2007 Society and MS International Federation convene a Stem Cell Research Summit of leading stem cell and MS experts to explore the potential of all types of stem cell research for MS and to set research priorities
- 2007 First large-scale trial of sex hormone estriol gets underway in women with MS, a result of the Society's targeting of gender differences
- 2007 With support from Society to International MS Genetics Consortium, two genes are confirmed to be linked to susceptibility to MS; researchers believe many more will be uncovered
- 2007 Society launches *Fast Forward* to speed treatments to people with MS by partnering with industry to develop new drugs
- 2007 Society's Task Force on MS Epidemiology meets to outline future research directions for funding agencies that will further the search for the cause of MS; through its efforts, a disease tracking system is being piloted by the Centers for Disease Control's ATSDR
- 2007/2008 Congressional MS Caucus launched to raise awareness and engage in discussion about access to health care, increase in research funding, disability rights and other MS issues, with members from the House and Senate
- 2008 MS activists secure a place for MS research in the \$50 million Congressionally Directed Medical Research Program, administered through the Department of Defense, plus \$5 million restricted to MS research within the CDMRP
- 2008 Society funds genome scan by International MS Genetics Consortium of 10,000 patients to validate a large-scale study and to study the influence of copy number variants and gene-to-gene interactions in MS susceptibility
- 2009 Fast Forward makes investments in 7 companies working on early stage MS therapies
- 2009 International task force convened by Society publishes landmark guidelines on the complex process of telling MS from look-alike disorders ("differential diagnosis")
- 2009 Extavia is approved by the FDA as a new brand of interferon beta-1b
- 2009 Society convenes international workshop on strategies to find the cause of MS, and factors that drive progression and ways to estimate MS frequency.
- 2009 Society holds first-ever Don Tykeson Fellows Conference to stimulate new research ideas and strengthen the commitment of bright young people to MS research
- 2009 Fast Forward joins forces with EMD Serono to fast-track new therapies for MS
- 2010 Gilenya, first oral disease-modifying therapy for MS, approved for relapsing forms
- 2010 Ampyra approved to improve walking ability in people with all types of MS

- 2010 Fast Forward, Juvenile Diabetes Research Foundation and Axxam SpA Join Forces to Accelerate Development of Treatments
- 2010 Society releases a request for proposals resulting in funding 2 feasibility studies on risk factors that drive MS progression and prognosis
- 2010 Nuedexta and Botox approved to treat specific symptoms that interfere with quality of life in people with MS
- 2010 Rapid collaboration and support for research on CCSVI
- 2010 International team co-supported by Society revises MS diagnostic criteria to reduce the wait for accurate diagnosis
- 2011 Society supports controlled study to determine whether vitamin D supplements can reduce MS disease activity
- 2011 Promise: 2010 Nervous System Repair initiative is completed, having jump-started the field, trained scores of promising young investigators, produced over 180 research papers, and leveraged millions of dollars in new funding
- 2011 Society-supported global consortium doubles the number of MS risk genes identified
- 2012 Launch of Progressive MS Alliance to speed the development of therapies
- 2012 Aubagio approved by FDA as second oral therapy for relapsing forms of MS
- 2012 Society task force launches effort to create a better tool to track benefits of therapies on disability in MS, leading to formation of the MS Outcome Assessments Consortium
- 2013 Tecfidera approved by FDA as third oral therapy for relapsing forms of MS
- 2013 Society partners with two foundations to form a research network of 10 leading universities aimed at screening drugs that show potential for treating brain diseases
- 2013 Barancik Prize for Innovation in MS Research is launched to inspire novel research
- 2013 Society commits \$2.5 million to support the Network of Pediatric MS Centers to provide essential infrastructure to facilitate research
- 2013 Launch of MS Prevalence Work Group to update the estimate of MS prevalence in the US