National Multiple Sclerosis Society

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; 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 nerve-insulating myelin is produced by oligodendrocyte 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 Society 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; becomes first drug 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, revolutionizing MS diagnosis and treatment
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 by Society to quickly test novel, high-risk ideas
1988	Health Care Delivery and Policy Research Program established by Society
1988	First demonstration with MRI that MS brain lesions are active even when the disease is clinically quiet

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 the first disease-modifying therapy; 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 MS (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 approved for treatment of spasticity
1997	Sylvia Lawry Physician Fellowships 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
1999	Society grantees first to isolate immature cells in the adult brain capable of developing into replacements for myelin-making cells destroyed by MS
1999-00	Society initiates new clinical trial in estrogen treatment for women with MS and T-cell vaccination, both of which had their origins in early Society-funded 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	Society-funded Fellow shows that Black Americans tend to have a more aggressive course than white Americans
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 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; more likely to be uncovered

2007 Society launches *Fast Forward* to speed treatments to people with MS by partnering with industry to develop new therapies

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

2007-8 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 Tykeson Fellows Conference to stimulate collaboration 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 International 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

2012 Launch of studies into whether bacteria in the gut influence MS disease activity or risk

2013 Tecfidera approved by FDA as third oral therapy for relapsing forms of MS

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 Researchers co-funded by the Society transplant stem cells derived from human skin into mice to successfully grow nerve-insulating myelin

2013 Launch of MS Prevalence Work Group to update the estimate of MS prevalence in the US

2013 Society-funded researchers report that dietary salt can speed the development of an MS-like disease in mice and may influence immune activity in MS

2014 New, less frequent dose of Copaxone approved

2014 Plegridy, an interferon taken by subcutaneous injection every 2 weeks, is approved

2014 Lemtrada, given in two courses of IV infusion, is approved for relapsing forms of MS

2014 Society convenes Wellness conference to map out gaps and opportunities in research and programs to find wellness solutions for people with MS

2014 Large trial of ibudilast, funded by NIH and Society, begins recruiting participants with progressive MS to test its ability to protect the nervous system from damage

2014 International Progressive MS Alliance awards its first 22 research grants

2015 Ocrelizumab becomes first experimental therapy to show positive effects in primary progressive MS in large-scale trial

2015 First generic form of Copaxone, given by daily injections, approved

2015 International initiative is launched to focus on how having MS and other conditions (co-morbidities) influences disease course and treatment

2015 A phase 2 clinical trial co-funded by the Society suggests a pill used to treat epilepsy (phenytoin) has the potential to slow the accumulation of disability in people with MS

2015 Results of phase 2 trial of anti-LINGO suggests it has potential as myelin repair strategy

2015 Society co-hosts international conference on cell-based therapies to forge next steps for cell therapy in MS

2015 Society funding helps launch MS Microbiome Consortium to promote research on the role of gut bacteria in MS progression and treatment

2015 Society's 5-year, $250 million NOW (No Opportunity Wasted) campaign successfully concluded, launching more MS research and driving more life-changing progress than what occurred at any other time in the Society's history

2016 Positive results from a phase 3 trial of siponimod for secondary progressive MS break through a long-standing barrier

2016 Positive results announced from two studies of bone marrow-derived stem cells (HSCT) in people with aggressive, relapsing MS

2016 Society-funded International Consortium of MS Genetics identifies 200 genetic variations linked to MS, offering new leads to how genes and other factors that make people susceptible to MS

2016 The antihistamine clemastine, identified with Society support, shows evidence of promoting myelin repair in a small clinical trial

2016 Society launches two new studies testing the ability of dietary approaches to treat MS symptoms and improve quality of life

2016-17	International Progressive MS Alliance awards three large-scale Collaborative Network Awards to promote solutions for people with progressive MS
2017	FDA approves Ocrevus (ocrelizumab) as first disease-modifying therapy for primary progressive MS, and also as a therapy for relapsing MS
2018	International team co-supported by Society revises MS diagnostic criteria to speed the diagnostic process and reduce the chance of misdiagnosis
2018	FDA approves expansion of the use of Gilenya to include children and adolescents 10 years of age or older with relapsing MS, the first therapy specifically approved to treat pediatric MS
2018	A Phase 2 trial showed that ibudilast could reduce brain atrophy in progressive MS. The trial was funded collaboratively by the National MS Society, the NINDS, its NeuroNext trials network, with support by MediciNova, the supplier of ibudilast
2018-19	More results were announced from several studies of bone marrow-derived stem cells in people with aggressive, relapsing MS
2019	A study sponsored by the National MS Society estimates that nearly 1 million adults are living with MS in the U.S., more than twice the previously reported number
2019	FDA approves oral Mavenclad for adults with relapsing forms of MS, and also approves oral Mayzent for adults with relapsing MS
2019	FDA approved Vumerity for relapsing MS
2020	National MS Society releases recommendations for aHSCT-bone marrow transplant for MS
2020	FDA approves generic form of Tecfidera for relapsing MS
2020	FDA approves Kesimpta for relapsing MS
2020	Society-supported Wellness Research Group publishes exercise and physical activity recommendations for ALL people with MS
2020	National MS Society, Consortium of MS Centers, and others establish the North American MS COVID-19 Clinical Database and contribute data to global COVID tracking initiative
2020	FDA approves oral Bafiertam for relapsing MS
2020	FDA approves oral Zeposia for relapsing MS
2021	Study shows that stem cells derived from skin cells of people with MS make normal myelin, a plus for future repair strategies
2021	Studies suggest that changes in the nervous system related to MS begin well before there are perceptible symptoms
2021	Studies add to growing evidence that Black people with MS may experience worse disease
2021	FDA approves oral Ponvory for relapsing MS, and the PoNS nerve stimulator for use during physical therapy to treat walking problems in MS
2021	Society-supported researchers discover a subset of brain cells that fight inflammation with instructions from gut bacteria, opening new therapy approaches
2022	Pathways to MS Cures research roadmap is published and gains global endorsement
2022	International MS Microbiome study links gut bacteria to MS susceptibility, severity and treatment in novel study
2022	Two studies show that high doses of vitamin D did not reduce MS disease activity
2022	Study commissioned by the Society showed that the total estimated cost to the U.S. economy, including government, industry and individuals, is $85.4 billion per year
2022	Two studies co-funded by the Society show links between socioeconomic status to increases in retinal (eye) nerve fiber damage and vision loss, and to depression and anxiety
2022	Society-funded researchers at Harvard published the strongest evidence yet that the common Epstein-Barr virus (EBV) can trigger MS when other risk factors are present
2022	FDA approves Briumvi for relapsing MS