

In A Nutshell

January 2023



The Year 2022 in Review

It is a pivotal moment in time where significant progress is being made and breakthrough solutions can change the world for everyone with MS.

The National MS Society's \$1.06 billion research investment has fueled many advances.

There are therapies specifically approved for treating and managing MS, and more potential MS therapies in development today than at any other time in history.

MS is more quickly diagnosed, enabling early and sustained therapy to slow disease activity

There is much greater awareness of the many symptoms of MS and ways to address them to improve quality of life

Scientists are making breakthroughs in identifying risk factors that can increase a person's susceptibility to MS, which will help lead to ways to prevent the disease.

Stopping MS

Researchers are making headway to understand how the body's gut microbiome may influence MS severity, which could lead to new approaches to stopping MS.

Testing is underway of approaches to protecting the nervous system from MS damage, including repurposing therapies already approved for other disorders.

Major clinical trials are underway testing novel approaches to treating all forms of MS, including progressive MS.

The global Progressive MS Alliance is focusing new resources on finding The answers that will lead to new treatments and ultimately, end

progressive MS.

Restoring What's Been Lost

Scientists are learning new information about how MS damages the nervous system and cells and factors involved in the body's ability to recover from Injury.

Early human trials of investigative therapies are underway aimed at repairing myelin.

Studies are providing new evidence that exercise and rehabilitation can improve many functions and even help rewire and possibly build areas of the brain, and researchers are pursuing these leads to find the best ways people can maximize quality of life.

Ending The Disease Forever

Studies are uncovering lifestyle factors that people can change-such as smoking, childhood obesity and vitamin D levels-that may reduce the risk of the next generation developing MS.

Researchers have found gene variations that combine to influence whether a person is more susceptible to MS, and are pursuing these clues to help understand what causes MS and how to find better treatments and prevention.

Just for Fun

We all remember the year that we were diagnosed with MS. What has transpired since that day based on the timeline of critical milestones below.

1981 - First MRI pictures of a brain affected by MS are produced, revolutionizing MS diagnosis

1984 - First modern documentation of cognitive problems in MS

1988 - First demonstration, using MRI, of significant lesion activity in MS, even when the disease seems quiet

1993 - First disease-modifying therapy for relapsing MS approved

1996 - First proof that aerobic exercise improves physical and psychological well-being in MS

1999 - Society grantees first to isolate immature cells in the adult brain capable of developing into replacements for myelin-making cells destroyed by MS

2003 - Italian researchers transplant cells to enhance nerve tissue repair in mice with MS

2004 - Pivotal study by Society Fellow shows that African-Americans tend to have a more aggressive course of MS than Caucasians

2005, 2010, 2018 - "McDonald Criteria" for diagnosing MS updated by Society Task Force, speeding time to diagnosis for many

2007 - With support from Society to International MS Genetics Consortium, two genes are confirmed

to be linked to MS risk; many more uncovered since

2007 - First large-scale trial of sex hormone estradiol gets underway in women with MS, a result of the Society's targeting of gender differences

2010 - First oral disease-modifying therapy approved for relapsing MS

2012 - Launch of Progressive MS Alliance to speed the development of therapies

2013 - Studies hint that exercise and rehabilitation can improve many functions and even help rewire the brain

2014 - First large, phase 2 clinical trials of myelin repair strategy for MS are launched

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 role of gut bacteria in MS progression and treatment

2015-16 - Two large-scale clinical trials break through long-standing barrier by showing benefit in primary progressive and secondary progressive MS

2016 - Positive results announced from two studies of bone marrow-derived stem cells (HSCT) in people with aggressive, relapsing MS; more research focuses on who might benefit and how to reduce risks

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 developing MS

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

2017 - International team co-sponsored by the Society revised MS diagnostic criteria to speed diagnostic process and reduce incidence 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 - Results announced from several studies of bone marrow-derived stem cells in people with aggressive, relapsing MS. More research is focused on who might benefit and how to reduce risks

2019 - Study sponsored by the National MS Society conducted by leading experts estimates that nearly 1 million adults are living with MS in the United States. This is more than twice the previously reported number

2019 - FDA approves oral Mavencol (cladribine) for adults with relapsing forms of MS, and also

approves oral Mayzent (siponimod) for adults with clinically isolated syndrome (an initial neurological episode) and relapsing forms of MS

2019 - FDA approved Vumerity™ (diroximel fumarate, Biogen and Alkermes plc) 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® (ofatumumab) 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

2020 - FDA approves Oral Bafiertam™ (Monomethyl Fumarate) for relapsing MS

2020 - FDA approves Oral Zeposia® (Ozanimod) for relapsing MS

Download a [Timeline of MS Research Progress \(.pdf\)](#).

I encourage you to download the pdf above. It starts with the milestone year of 1421 with the first case of MS; St. Lidwina of Schiedam.

[Research News & Progress | National Multiple Sclerosis Society \(nationalmssociety.org\)](https://www.nationalmssociety.org/research-news-progress)