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# Multiple Sclerosis

**Also called: MS**

Multiple sclerosis (MS) is a nervous system disease [<https://medlineplus.gov/neurologicdiseases.html>] that affects your brain and spinal cord. It damages the myelin sheath, the material that surrounds and protects your nerve cells. This damage slows down or blocks messages between your brain and your body, leading to the symptoms of MS. They can include:


- Visual disturbances
- Muscle weakness
- Trouble with coordination and balance
- Sensations such as numbness, prickling, or "pins and needles"
- Thinking and memory problems

No one knows what causes MS. It may be an autoimmune disease, which happens when your immune system attacks healthy cells in your body by mistake. Multiple sclerosis affects women more than men. It often begins between the ages of 20 and 40. Usually, the disease is mild, but some people lose the ability to write, speak, or walk.



There is no specific test for MS. Doctors use a medical history, physical exam, neurological exam, MRI, and other tests to diagnose it. There is no cure for MS, but medicines may slow it down and help control symptoms. Physical and occupational therapy may also help.

*NIH: National Institute of Neurological Disorders and Stroke*

## Start Here


- Multiple Sclerosis [<https://www.mayoclinic.org/diseases-conditions/multiple-sclerosis/symptoms-causes/syc-20350269?p=1>] (Mayo Foundation for Medical Education and Research)
- Multiple Sclerosis [<https://www.ninds.nih.gov/health-information/disorders/multiple-sclerosis>]  (National Institute of Neurological Disorders and Stroke)

## Diagnosis and Tests




- Cerebrospinal Fluid (CSF) Analysis [<https://medlineplus.gov/lab-tests/cerebrospinal-fluid-csf-analysis/>]  (National Library of Medicine)  
Also in Spanish [<https://medlineplus.gov/spanish/pruebas-de-laboratorio/analisis-del-liquido-cefallo-raquideo/>]
- CSF Immunoglobulin G (IgG) Index [<https://medlineplus.gov/lab-tests/csf-immunoglobulin-g-igg-index/>]  (National Library of Medicine)  
Also in Spanish [<https://medlineplus.gov/spanish/pruebas-de-laboratorio/indice-de-igg-en-lcr/>]
- CSF oligoclonal banding - series [[https://medlineplus.gov/ency/presentations/100145\\_1.htm](https://medlineplus.gov/ency/presentations/100145_1.htm)] (Medical Encyclopedia)  
Also in Spanish [[https://medlineplus.gov/spanish/ency/esp\\_presentations/100145\\_1.htm](https://medlineplus.gov/spanish/ency/esp_presentations/100145_1.htm)]
- How Is Multiple Sclerosis Diagnosed? [<https://www.nationalmssociety.org/understanding-ms/what-is-ms/how-ms-is-diagnosed>] (National Multiple Sclerosis Society)



# Treatments and Therapies

- Complementary and Alternative Medicine for Multiple Sclerosis [<https://www.aan.com/Guidelines/Home/GetGuidelineContent/642>] (American Academy of Neurology) - **PDF**
- Thunder God Vine [<https://www.nccih.nih.gov/health/thunder-god-vine>]  (National Center for Complementary and Integrative Health)
- Use of Supplements for Multiple Sclerosis [<https://www.nationalmssociety.org/managing-ms/living-with-ms/diet-exercise-and-healthy-behaviors/diet-nutrition/vitamin-mineral-and-supplements>] (National Multiple Sclerosis Society)

## Living With


- Comprehensive Care [<https://www.nationalmssociety.org/managing-ms/treating-ms/comprehensive-care>] (National Multiple Sclerosis Society)
- Diet and Nutrition [<https://www.nationalmssociety.org/managing-ms/living-with-ms/diet-exercise-and-healthy-behaviors/diet-nutrition>] (National Multiple Sclerosis Society)
- Dressing with Ease, Style, and Comfort [<https://www.als.org/navigating-als/resources/fyi-dressing-ease-style-and-comfort>] (ALS Association)
- Exercising With Multiple Sclerosis [<https://www.nationalmssociety.org/managing-ms/living-with-ms/diet-exercise-and-healthy-behaviors/exercise>] (National Multiple Sclerosis Society)
- Financial Planning [<https://www.nationalmssociety.org/resources/financial-planning>] (National Multiple Sclerosis Society)
- Living with Advanced MS: Advanced Care Needs [<https://www.nationalmssociety.org/managing-ms/treating-ms/advanced-care-needs>] (National Multiple Sclerosis Society)
- Managing Multiple Sclerosis: Treatment Can Delay Future Attacks [<https://newsinhealth.nih.gov/2019/01/managing-multiple-sclerosis>]  (National Institutes of Health)  
Also in Spanish [<https://salud.nih.gov/recursos-de-salud/nih-noticias-de-salud/manejo-de-la-esclerosis-multiple>]
- Mobility Aids: MedlinePlus Health Topic [<https://medlineplus.gov/mobilityaids.html>]  (National Library of Medicine)  
Also in Spanish [<https://medlineplus.gov/spanish/mobilityaids.html>]
- Rehabilitation and Multiple Sclerosis [<https://www.nationalmssociety.org/managing-ms/treating-ms/rehabilitation>] (National Multiple Sclerosis Society)
- Resources [<https://www.nationalmssociety.org/resources>]  (National Multiple Sclerosis Society)
- Staying Mobile [<https://www.nationalmssociety.org/managing-ms/living-with-ms/mobility-and-accessibility/staying-mobile>] (National Multiple Sclerosis Society)

## Related Issues

- Depression and Multiple Sclerosis [<https://www.nationalmssociety.org/understanding-ms/what-is-ms/ms-symptoms/depression>] (National Multiple Sclerosis Society)
- Emotional Disorders in People with Multiple Sclerosis [<https://www.aan.com/Guidelines/Home/GetGuidelineContent/630>] (American Academy of Neurology) - **PDF**
- Gait or Walking Problems [[https://nms2cdn.azureedge.net/cmssite/nationalmssociety/media/msnationalfiles/brochures/brochure-gaitorwalkingproblems-thebasicfacts\\_final.pdf](https://nms2cdn.azureedge.net/cmssite/nationalmssociety/media/msnationalfiles/brochures/brochure-gaitorwalkingproblems-thebasicfacts_final.pdf)] (National Multiple Sclerosis Society) - **PDF**
- Guide for Support Partners [<https://cdn.sanity.io/files/y936aps5/production/aecdc13c9d92b721ef4b0be3dc8d14f20f5868f6.pdf>] (National Multiple Sclerosis Society) - **PDF**
- How MS Affects the Black Community [<https://www.nationalmssociety.org/understanding-ms/what-is-ms/who-gets-ms/how-ms-affects-the-black-community>] (National Multiple Sclerosis Society) - **PDF**
- Maintaining Relationships with Multiple Sclerosis [<https://www.nationalmssociety.org/managing-ms/living-with-ms/relationships>] (National Multiple Sclerosis Society)



Myoclonus [<https://www.ninds.nih.gov/health-information/disorders/myoclonus>]

 (National Institute of Neurological Disorders and Stroke)


Also in Spanish [<https://www.ninds.nih.gov/es/health-information/disorders/mioclono>]

- Neuromyelitis Optica [<https://www.ninds.nih.gov/health-information/disorders/neuromyelitis-optica>]

 (National Institute of Neurological Disorders and Stroke)

Also in Spanish [<https://espanol.ninds.nih.gov/es/trastornos/neuromielitis-optica>]

## Specifics

- Primary Progressive Multiple Sclerosis (PPMS) [<https://www.nationalmssociety.org/understanding-ms/what-is-ms/types-of-ms/primary-progressive-ms>] (National Multiple Sclerosis Society)
- Relapsing-Remitting MS (RRMS) [<https://www.nationalmssociety.org/understanding-ms/what-is-ms/types-of-ms/relapse-remitting-ms>]  (National Multiple Sclerosis Society)
- Secondary Progressive Multiple Sclerosis (SPMS) [<https://www.nationalmssociety.org/understanding-ms/what-is-ms/types-of-ms/secondary-progressive-ms>] (National Multiple Sclerosis Society)

## Genetics


- Multiple sclerosis: MedlinePlus Genetics [<https://medlineplus.gov/genetics/condition/multiple-sclerosis>]

 (National Library of Medicine)

## Statistics and Research

- Research News and Progress [<https://www.nationalmssociety.org/understanding-ms/ms-research/research-news-progress>] (National Multiple Sclerosis Society)
- Vitamin D and Multiple Sclerosis (MS): Is There Any Connection? [<https://www.mayoclinic.org/diseases-conditions/multiple-sclerosis/expert-answers/vitamin-d-and-ms/FAQ-20058258?p=1>] (Mayo Foundation for Medical Education and Research)  
Also in Spanish [<https://www.mayoclinic.org/es/diseases-conditions/multiple-sclerosis/expert-answers/vitamin-d-and-ms/faq-20058258?p=1>]

## Clinical Trials

- ClinicalTrials.gov: Multiple Sclerosis [<https://clinicaltrials.gov/search?cond=%22Multiple+Sclerosis%22&aggFilters=status:not%20rec>]  (National Institutes of Health)

## Journal Articles

References and abstracts from MEDLINE/PubMed (National Library of Medicine)

- Article: Reliability of serum neurofilament light and glial fibrillary acidic protein for... [<https://www.ncbi.nlm.nih.gov/pubmed/40699373>]
- Article: Comparative effects of sensory motor and virtual reality interventions to improve... [<https://www.ncbi.nlm.nih.gov/pubmed/40571688>]
- Article: Effect of whole-body cryotherapy on body balance in patients with multiple... [<https://www.ncbi.nlm.nih.gov/pubmed/40544467>]
- Multiple Sclerosis -- see more articles [<https://pubmed.ncbi.nlm.nih.gov/?term=%22Multiple+Sclerosis%22%5Bmajr%3Anoexp%5D+AND+humans%5Bmh%5D+AND+english%5Bla%5D+AND+%22last+1+Year%22+%5Bedat%5D+AND+%28patient+education+handout%5Bpt%5D+OR+guideline%5Bpt%5D+OR+clinical+trial%5Bpt%5D%29++NOT+%28letter%5Bpt%5D+OR+case+reports%5Bpt%5D+OR+editorial%5Bpt%5D+OR+comment%5Bpt%5D%29+AND+free+full+text%5Bsb%5D+>]


## Reference Desk

- Spasticity [<https://www.ninds.nih.gov/health-information/disorders/glossary-neurological-terms#spasticity>]

 (National Institute of Neurological Disorders and Stroke)



## Find an Expert

- National Institute of Neurological Disorders and Stroke [<https://www.ninds.nih.gov/>] 
- National Multiple Sclerosis Society [<https://www.nationalmssociety.org/>]

## Children

- Multiple Sclerosis (For Parents) [<https://kidshealth.org/en/parents/multiple-sclerosis.html>] (Nemours Foundation)
- Pediatric Multiple Sclerosis [<https://www.nationalmssociety.org/understanding-ms/what-is-ms/who-gets-ms/pediatric-multiple-sclerosis>] (National Multiple Sclerosis Society)

## Women

- Family Planning and Pregnancy with Multiple Sclerosis [<https://www.nationalmssociety.org/managing-ms/living-with-ms/diet-exercise-and-healthy-behaviors/pregnancy>] (National Multiple Sclerosis Society)

## Patient Handouts

- Cerebral spinal fluid (CSF) collection [<https://medlineplus.gov/ency/article/003428.htm>] (Medical Encyclopedia)  
Also in Spanish [<https://medlineplus.gov/spanish/ency/article/003428.htm>]
- CSF oligoclonal banding [<https://medlineplus.gov/ency/article/003631.htm>] (Medical Encyclopedia)  
Also in Spanish [<https://medlineplus.gov/spanish/ency/article/003631.htm>]
- Daily bowel care program [<https://medlineplus.gov/ency/patientinstructions/000133.htm>] (Medical Encyclopedia)  
Also in Spanish [<https://medlineplus.gov/spanish/ency/patientinstructions/000133.htm>]
- Multiple sclerosis [<https://medlineplus.gov/ency/article/000737.htm>] (Medical Encyclopedia)  
Also in Spanish [<https://medlineplus.gov/spanish/ency/article/000737.htm>]
- Multiple sclerosis - discharge [<https://medlineplus.gov/ency/patientinstructions/000129.htm>] (Medical Encyclopedia)  
Also in Spanish [<https://medlineplus.gov/spanish/ency/patientinstructions/000129.htm>]



## MEDICAL ENCYCLOPEDIA

- BAER - brainstem auditory evoked response [<https://medlineplus.gov/ency/article/003926.htm>]
- Cerebral spinal fluid (CSF) collection [<https://medlineplus.gov/ency/article/003428.htm>]
- CSF cell count [<https://medlineplus.gov/ency/article/003625.htm>]
- CSF myelin basic protein [<https://medlineplus.gov/ency/article/003370.htm>]
- CSF oligoclonal banding [<https://medlineplus.gov/ency/article/003631.htm>]
- CSF oligoclonal banding - series [[https://medlineplus.gov/ency/presentations/100145\\_1.htm](https://medlineplus.gov/ency/presentations/100145_1.htm)]
- Daily bowel care program [<https://medlineplus.gov/ency/patientinstructions/000133.htm>]



Head MRI [<https://medlineplus.gov/ency/article/003791.htm>]

Multiple sclerosis [<https://medlineplus.gov/ency/article/000737.htm>]

Multiple sclerosis - discharge [<https://medlineplus.gov/ency/patientinstructions/000129.htm>]

Optic neuritis [<https://medlineplus.gov/ency/article/000741.htm>]

Palatal myoclonus [<https://medlineplus.gov/ency/article/001637.htm>]

Swallowing problems [<https://medlineplus.gov/ency/patientinstructions/000065.htm>]

## National Institutes of Health

The primary NIH organization for research on *Multiple Sclerosis* is the National Institute of Neurological Disorders and Stroke [<http://www.ninds.nih.gov/>]

## NIH MedlinePlus Magazine

CNN's John King Isn't Letting Multiple Sclerosis Slow Him Down [<https://magazine.medlineplus.gov/article/cnns-john-king-isnt-letting-multiple-sclerosis-slow-him-down>]

Multiple Sclerosis: What You Need to Know [<https://magazine.medlineplus.gov/article/multiple-sclerosis-what-you-need-to-know>]

Uncovering the Mysteries of Multiple Sclerosis: Medical Imaging Helps NIH Researchers Understand the Tricky Disease [<https://magazine.medlineplus.gov/article/uncovering-the-mysteries-of-multiple-sclerosis>]

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