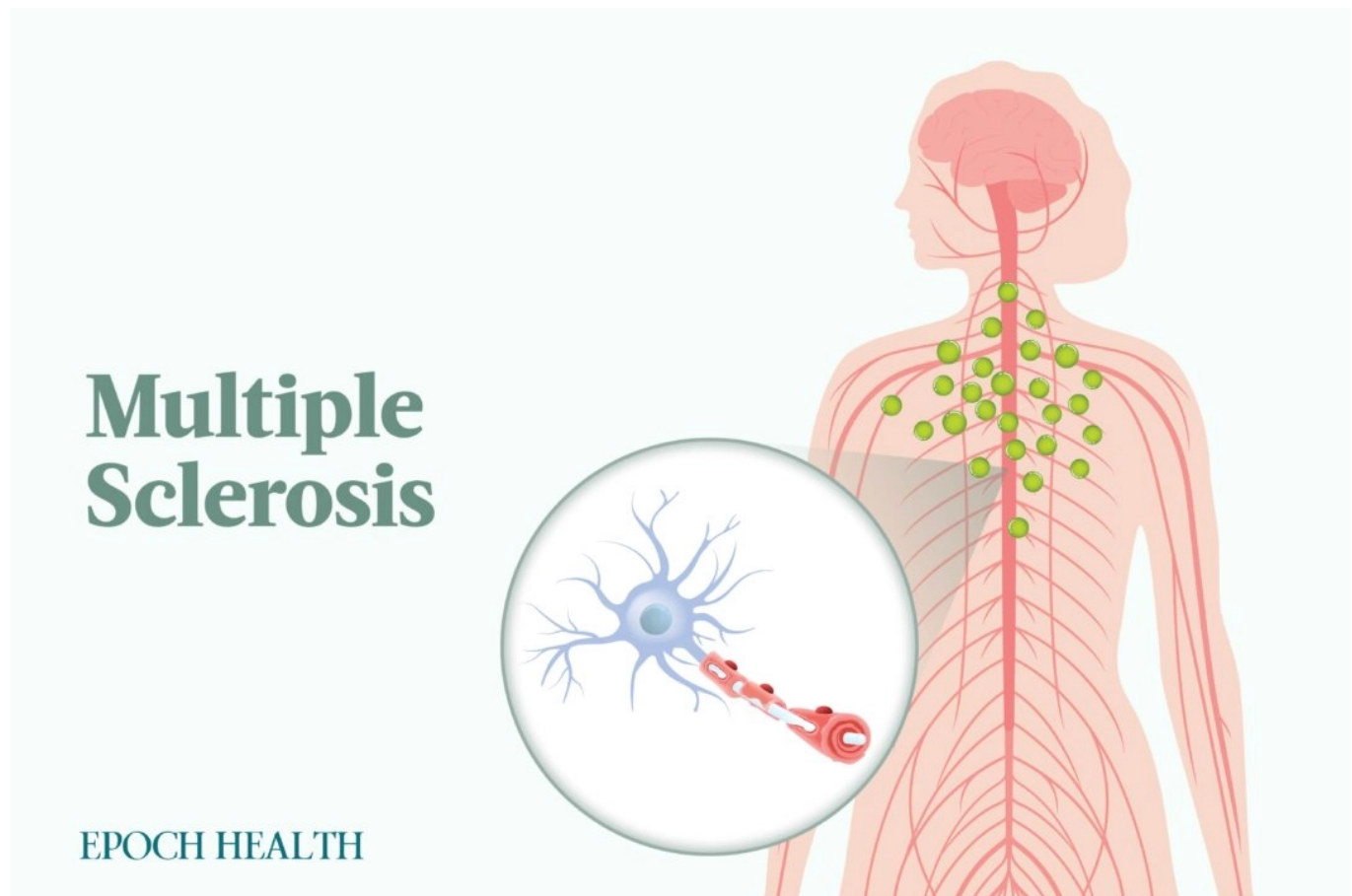


HEALTH > CONDITIONS > AUTOIMMUNE DISEASE

 Medically Reviewed

The Essential Guide to Multiple Sclerosis: Symptoms, Causes, Treatments, and Natural Approaches

Nearly 1 million people in the United States live with multiple sclerosis, a chronic autoimmune disease.



MS typically manifests between the ages of 20 and 40 and is the most common disabling neurological disease in young adults. (Illustrations by The Epoch Times, Shutterstock)

By [Mercura Wang](#)

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  PrintMedical Reviewed [Dr. Beverly Timerding](#)

Multiple sclerosis (MS) is a chronic [autoimmune condition](#) affecting the central nervous system, including the brain and spinal cord. It occurs when the immune system mistakenly targets and harms the protective fatty myelin sheath surrounding nerves. Myelin plays a crucial role in insulating and safeguarding nerves, ensuring the electrical signals from the brain to the body travel swiftly and effectively. The disease can lead to issues with muscle coordination, vision, balance, sensation, and thinking, sometimes resulting in significant disabilities.

Typically, MS manifests between the ages of [20 and 40](#) and is the most common disabling neurological disease in young adults. Currently, [nearly 1 million](#) individuals in the United States are afflicted with MS.

What Are the Types of Multiple Sclerosis?

Different types of MS vary in their progression. Identifying a patient's specific type of MS aids in anticipating its course and making informed treatment choices.

There are four types of multiple sclerosis, including the following:

1. Relapsing-Remitting Multiple Sclerosis (RRMS)

[Relapsing-remitting MS](#) is the most common form of MS, as it accounts for the initial diagnosis in around 85 percent of all MS cases. RRMS is marked by distinct episodes of active disease activity (i.e., attacks or relapses) followed by recovery (i.e., remission) phases.

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Also known as “attacks” or “exacerbations,” MS relapses are abrupt, significantly worsening symptoms lasting at least 24 hours and not caused by infection, fever, or stress. They result from new areas of inflammation and demyelination. Demyelination is when the protective covering of nerve fibers, myelin, is damaged or destroyed. Most relapse symptoms improve with time, rest, and possibly therapy, but partial recovery can lead to permanent symptoms. MS relapses usually endure for days to weeks. People with RRMS not on disease-modifying therapy (DMT) typically have one to three relapses annually, but some experience much longer intervals between relapses.

In remission, the disease seems to halt its progression. During this phase, symptoms may not worsen or completely vanish (non-worsening), or some may worsen and become permanent (worsening).

Infection, fever, and stress can cause pseudo-relapses, which mimic real MS relapses but lack new inflammation or demyelination. Magnetic resonance imaging (MRI) scans aid in distinguishing between pseudo- and real relapses. Pseudo-relapses may be addressed by treating the underlying infection or stress source.

2. Primary Progressive Multiple Sclerosis (PPMS)

Primary progressive MS accounts for 10 percent to 15 percent of all MS diagnoses. It is identified by a continuous, worsening course from the start, marked by increasing disability and typically lacking

remission periods or acute attacks. PPMS's progression rate can vary, with periods of stability or changes along the way.

3. Secondary Progressive Multiple Sclerosis (SPMS)

This is diagnosed when an initial RRMS phase is succeeded by an ongoing “progressive” phase in which the disease steadily worsens. For this reason, it is actually considered a [subtype or phase of RRMS](#). This transition can be a complex and uncertain period in the diagnosis, as it is different for each individual and can take years or even decades to develop. During SPMS, attacks and partial recoveries may still occur. Transitioning to SPMS doesn't occur in all individuals with RRMS.

4. Progressive Relapsing Multiple Sclerosis (PRMS)

This rare form of MS initially inflicts continuous nerve damage with symptom onset, leading to steady deterioration. Although relapses may occur, with subsequent partial or complete recovery, nerve damage persists, and symptoms progressively worsen.

Clinically Isolated Syndrome (CIS)

Clinically isolated syndrome refers to an MS-like event in someone without a prior MS diagnosis, not a type of MS itself. While those with CIS have a higher risk of developing MS, not everyone will develop it. CIS typically involves one episode of MS symptoms that lasts days or weeks, but a confirmed MS diagnosis usually requires at least two such episodes. Many individuals with CIS eventually experience more episodes and are diagnosed with MS.

What Are the Symptoms and Early Signs of Multiple Sclerosis?

MS symptoms can vary widely from person to person due to the affected nerve fibers' location, and there's no one-size-fits-all pattern.

Many MS early signs can affect both women and men. However, it's important not to jump to conclusions, as MS shares similar symptoms with many other conditions.

Vision problems are among the first signs. Commonly seen [early problems with vision](#) may include the following problems:

- **Optic neuritis:** Optic neuritis is the inflammation of the optic nerve and the first noticeable symptom in 25 percent of MS cases. Individuals with this condition may experience partial loss of vision, loss of central vision, eye pain (especially when the affected eye moves), temporary loss of vision for days or weeks, color blindness or red-green color distortion, and brief flashes of light when moving the eye. Optic neuritis may affect one eye or both eyes.
- **Internuclear ophthalmoplegia:** With internuclear ophthalmoplegia, damage to nerve fibers coordinating horizontal eye movement results in one eye's inability to turn inward, causing double vision in the opposite direction. The unaffected eye may show involuntary movement, including rapid, repetitive motion in one direction followed by a slow drift back, a condition known as nystagmus.

The following are some of the other more common and early symptoms of MS:

- **Paresthesia (abnormal sensations):** Unusual sensations such as tingling, numbness, pain, burning, or itching can occur in the arms, legs, trunk, or face, often accompanied by a decreased sense of touch.
- **Loss of strength or dexterity in a leg or hand:** This can lead to stiffness in the affected leg or hand.
- **Muscle problems:** Muscle issues are common in MS, resulting in weakness, stiffness, and a heavy feeling in one's limbs. This can lead to leg dragging while walking, muscle weakness, stiffness and resistance to muscle movement, and muscle spasms.

resistance to muscle movement, and muscle spasms.

- **Balance problems:** Individuals with MS may feel lightheaded or dizzy or experience vertigo. This may be the result of damage to the brain's cerebellum.
- **Bladder problems:** Bladder dysfunction is prevalent in MS, and its symptoms may include increased urination frequency, incontinence, urinary retention, and nocturia (nighttime awakening to urinate).
- **Fatigue:** MS can cause extreme fatigue, making even simple tasks challenging. Fatigue typically worsens at day's end, in hot weather, after physical activity, and during illness.

The following symptoms may develop more slowly:

- **Paralysis:** Individuals with MS may experience partial or total paralysis.
- **Tremor:** MS patients may experience the shaking of limbs.
- **Bowel problems:** Bowel issues may result from the condition or be linked to the medications treating it. Constipation is the most common bowel issue in MS; bowel incontinence is less common. If stool becomes impacted, which is often a result of constipation, it can irritate the bowel wall, leading to increased fluid and mucus production, which can leak from the rectum.
- **Cognitive problems:** Approximately [50 percent](#) of people with MS experience cognitive issues. Symptoms of cognitive dysfunction may include brain fog, problems acquiring and retaining new knowledge, slowness in processing large amounts of information, difficulty multitasking, shortened attention span, poor judgment, problems processing visual information (e.g., reading maps), difficulty with planning and problem-solving, and reasoning problems (e.g., solving puzzles).
- **Disability:** Frequent relapses can lead to a progressive and

Spasticity: Frequent relapses can lead to a progressive and potentially permanent increase in disability.

- **Neuropathic pain:** MS-related pain arises from nervous system damage and includes many symptoms, including stabbing pain in the face, torso, and limbs, burning sensations, pins and needles (a feeling of unpleasant tingling or prickling), and feelings of being hugged or squeezed.
- **Dysphagia:** Dysphagia refers to difficulty swallowing. It can range from challenges with specific foods or liquids to a complete inability to swallow.
- **Dysarthria:** Dysarthria is a speech disorder resulting from muscle weakness, leading to slurred or unclear speech. Thus, it may be challenging for individuals with dysarthria to pronounce words and articulate effectively.
- **Pseudobulbar affect (PBA):** Pseudobulbar affect is a neurological condition marked by involuntary and abrupt episodes of laughter or crying, which can be challenging to manage.
- **Sexual dysfunction:** Individuals may lose their libido. Men may have difficulty maintaining erections (erectile dysfunction), while women may have decreased vaginal lubrication or have difficulty reaching orgasm.

What Causes Multiple Sclerosis?

MS doesn't have a single known cause, but it is likely influenced by a combination of [genetic and environmental factors](#), including sunlight exposure, vitamin D levels, habits, and diet.

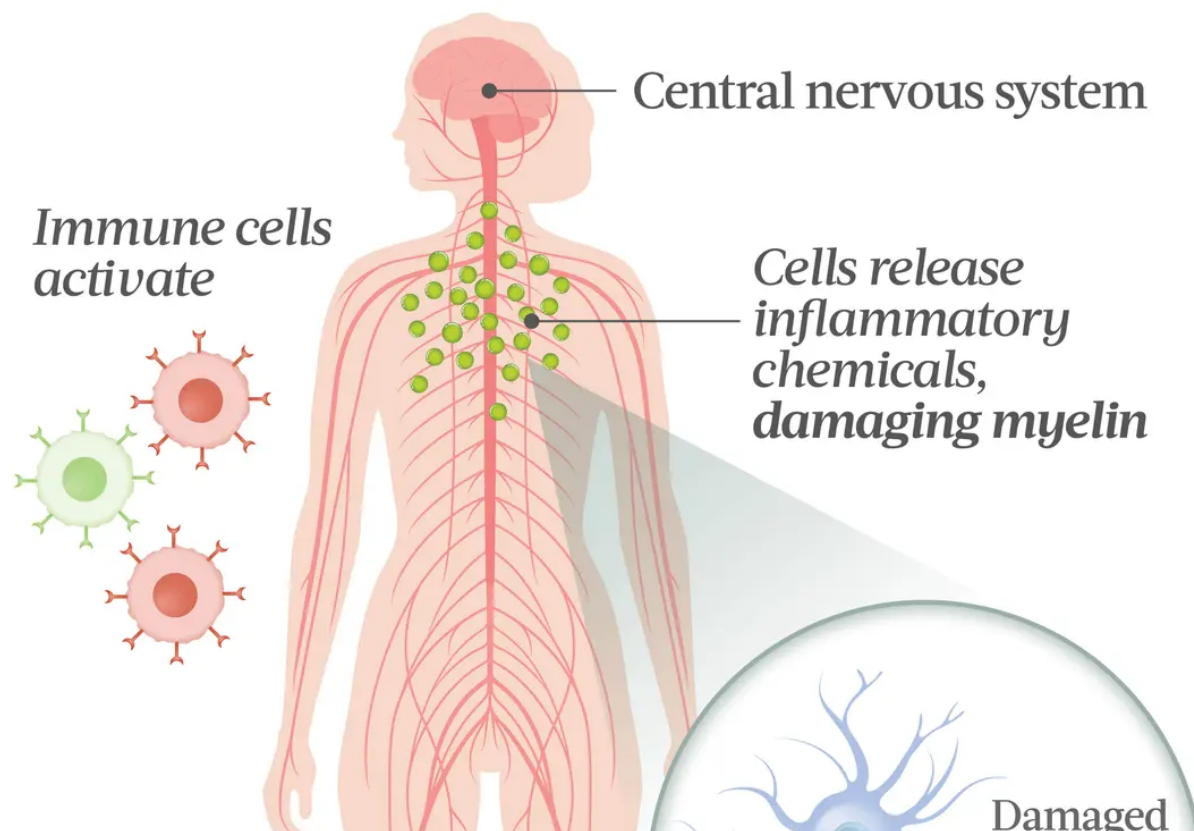
Researchers are currently exploring reasons for the immune system's attack on myelin, including the body's battling an infectious agent (e.g., a virus), eliminating unhealthy brain cells, or misidentifying regular brain cells as foreign substances.

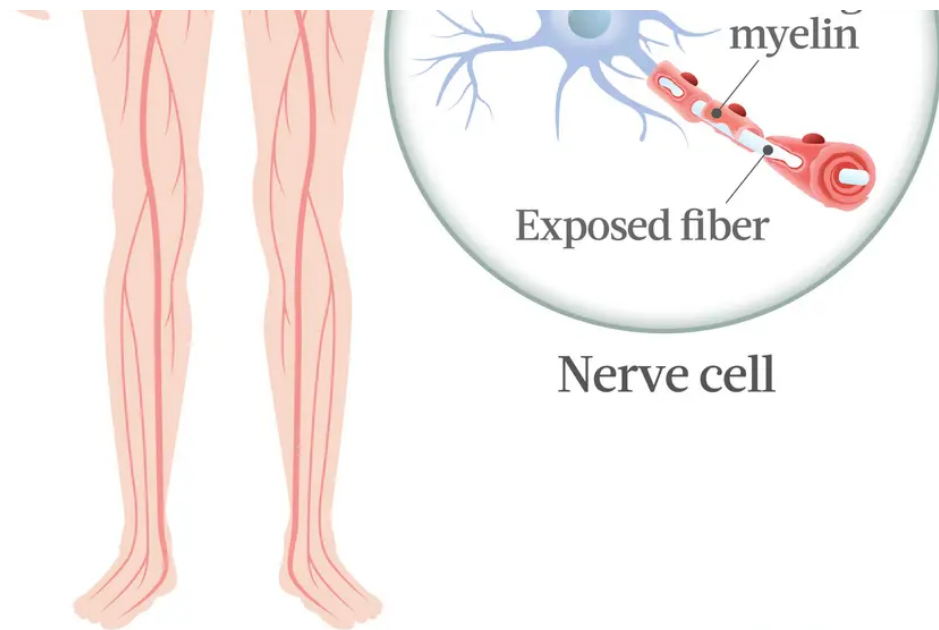
As per research, [B and T cells](#) are the immune cells that are the major driving forces behind MS. In MS, [activated T cells](#) enter the central nervous system from the lymph system through blood vessels. They release chemicals causing inflammation and damage, harming myelin, nerve fibers, and myelin-producing cells. T cells also trigger B cells and other immune cells to join the assault. B cells produce antibodies and other proteins that contribute to central nervous system damage.

MS is characterized by the loss of myelin and varying degrees of damage to nerve fibers (axonal loss). During an MS attack (demyelination), the myelin deteriorates, leading to exposed and subsequently scarred nerve patches. This disrupts the proper communication of messages by the nerves, putting them at risk of further degeneration.

Multiple Sclerosis

What happens in your body?





EPOCH HEALTH

In MS, an autoimmune response activates immune cells like T and B cells, which then release inflammatory cytokines that damage myelin, the protective sheath coating nerve cell fibers. This disrupts communication between nerves. (Illustrations by The Epoch Times, Shutterstock)

If the protective myelin sheath of nerve cells is damaged, it may occasionally undergo self-repair, allowing the nerves to function properly once more. However, the myelin is so extensively damaged in some instances that the underlying nerve cannot be restored and eventually perishes. Consequently, the brain's ability to communicate with the rest of the body is impaired, resulting in symptoms.

Who Is More Likely to Develop Multiple Sclerosis?

MS commonly occurs in people between the ages of 15 and 50, although it can affect individuals of all ages. Several factors increase the likelihood of developing MS, such as the following:

- **Genetics:** The risk for a sibling or child of someone with MS is approximately [2 percent to 3 percent](#). In addition, studies on identical twins suggest that there's a [25 percent to 30 percent](#) genetic risk of MS, but this dramatically decreases to 3 percent to 5 percent in fraternal twins. This shows that environmental and

physical factors also play a significant role in MS development. Genetic studies have discovered over 100 genetic variations that might be involved in the condition. However, not everyone with these variations will develop MS. Additionally, MS is more likely to develop in individuals with specific cell surface markers called human leukocyte antigens (HLA). These markers typically aid the immune system in distinguishing between self and non-self, helping it determine which substances to target.

- **Sex:** Women are more prone to developing MS than men. In general, in relapsing forms of MS, women are [three times](#) more likely than men to develop the condition. In the primary-progressive form, prevalence is more evenly distributed between sexes.
- **Ethnicity and race:** In terms of race, whites are more likely to develop MS than individuals of [African heritage](#). Research also shows that Latinos are typically diagnosed at a younger age than both blacks and whites. Each group appears to have certain symptoms more common among them and differing amounts of symptoms present at diagnosis. In a genetic context, MS is notably rare in Japan, China, African blacks, and certain indigenous populations. It has never been reported in ethnic groups such as Inuits, North and South Amerindians, aboriginal Australians, New Zealand Maoris, or Pacific Islanders. Globally, the highest prevalence of MS is typically observed in women of Scandinavian and northern European descent.
- **Geographical location and vitamin D:** MS is more prevalent in countries distant from the equator, a phenomenon known as the latitudinal gradient. This is particularly evident in the northern hemisphere. MS is uncommon in tropical and subtropical regions. Although the exact reasons for this connection remain uncertain, since the most influential factor linked to latitude is the duration and strength of sunlight, it is suggested that insufficient sunlight and reduced vitamin D levels might be contributors. Insufficient vitamin D levels might increase the risk of developing MS and potentially have a negative influence on outcomes after diagnosis.

However, the effectiveness of vitamin D supplements in preventing MS remains uncertain. Research has also indicated that individuals who relocate before the [age of 15](#) tend to adopt the risk level of the region they move to. These findings imply that exposure to certain environmental factors before puberty might predispose someone to develop MS in the future.

- **Smoking:** Smoking and passive smoke exposure are strongly associated with increased MS risk. Smokers are about [twice as likely](#) to develop MS than nonsmokers, and [heavy smokers](#) (over four packs a day) face a fivefold risk. For those with relapse-remitting MS, smoking over 10 cigarettes a day is tied to a higher risk of transitioning to secondary progressive MS. Female smokers also have a 1.6 times higher risk of developing MS than nonsmoking women. Therefore, quitting smoking, whether before or after MS onset, is linked to slowed disability progression.
- **Previous viral infections:** Several viruses, including Epstein-Barr (which causes glandular fever, aka mononucleosis), have been associated with MS.
- **Diet:** Consuming an unbalanced diet rich in salt and unhealthy fats is believed to induce body-wide inflammation, thus increasing the risk of MS development.
- **Childhood and teenage obesity:** Individuals, especially girls, who were obese during adolescence face a higher risk.
- **Head trauma in adolescence:** A [2017 study](#) found a link between head trauma experienced in youth and later MS development. Young people who had a concussion between the ages of 10 and 20 had a 22 percent higher risk of developing MS, and the rate more than doubled in those who had more than one concussion.

Can Vaccines Potentially Trigger Multiple Sclerosis?

Questions have been raised as to whether certain vaccines, including those for COVID-19, may correlate with the development of MS. The [initial documentation](#) of a potential link between hepatitis B virus (HBV) vaccination and MS development took place as early as the 1990s, but [other research](#) disputed the link, and a causal relationship has yet to be established. Since 2021, after the COVID-19 vaccine rollout, cases of [MS onset](#), [MS relapse](#), and [MS exacerbation](#) after vaccination have been reported, but again, case studies do not prove causation.

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In 2022, in a [case report concerning two patients](#) found in the World Health Organization's (WHO) Global COVID-19 Research Database, the authors surmised that COVID-19 vaccination might induce MS due to CD4+ T cells recognizing SARS-CoV-2 spike protein and myelin peptides. However, [other research](#) has implicated the COVID-19 virus itself as a potential factor in MS. Further, one [large, retrospective case-control study](#) looking at subjects who had received vaccinations five years before their MS diagnosis did not find vaccination to be a risk factor for MS. Like the other studies mentioned here, it is observational and cannot prove cause and effect.

[Several reports](#) regarding patients diagnosed with MS after receiving COVID-19 vaccination have been documented. However, current evidence has not proven causation, but more focused research must be done to explore associative findings such as these.

How Is Multiple Sclerosis Diagnosed?

An early diagnosis leads to better outcomes in MS. There is no definitive test for diagnosing it. The diagnosis is made only after ruling out other potential causes of symptoms, which can be a complex and time-consuming process.

Medical history and neurological examinations can provide strong indications of nervous system issues. Diagnostic tests to confirm a diagnosis come into play when the history and examination do not offer clear evidence of the disease.

To diagnose MS, two criteria must be met:

- At least two attacks must have occurred, with a one-month gap between them. An attack is characterized by the sudden onset of new MS symptoms or the worsening of existing symptoms for at least 24 hours.
- More than one area of the central nervous system myelin must show damage. This damage must have occurred at multiple points in time and should not be attributed to any other disease.

Tests to diagnose MS may include the following:

- **Neurological examination:** A neurological exam assesses cranial nerves, reflexes, muscle strength, sensory perception, and vision to detect potential areas of damage from MS lesions. Walking speed and style may also be evaluated.
- **MRI scan:** An MRI scan of the brain and spinal cord is typically performed. A contrast dye can help identify both active and inactive myelin damage.
- **Lumbar puncture:** A lumbar puncture, or spinal tap, may be performed to assess cerebrospinal fluid, which surrounds and

protects the brain and spinal cord from injury. In most cases of MS, this test reveals abnormal results.

- **Evoked potential test:** This test gauges the response time and size of nerve reactions to stimulation from various parts of the body. It can uncover abnormalities in the brain, spinal cord, and optic nerves of the eyes that might go unnoticed by other tests.
- **Blood tests:** These are conducted to rule out other medical conditions.
- **Eye examination and visual field assessments.**
- **Inner ear tests:** These check an individual's balance.
- **Urine tests:** Urinalysis may rule out other conditions.
- **Electrocardiogram:** This noninvasive procedure evaluates the heart's rhythm and electrical activity, aiding in diagnosing various heart issues.

What Are the Complications of Multiple Sclerosis?

[Potential complications](#) of MS may include secondary complications caused by the symptoms of the disease and tertiary symptoms caused by the social, employment, or emotional challenges resulting from living with MS. The following are both kinds of complications:

- Decreasing self-care capacity.
- Indwelling urinary catheter requirement.
- Medication side effects.
- Bedsores [due to paralysis](#).

- Recurrent urinary tract infections (UTIs) caused by bladder problems, such as urinary retention.
- Decreased bone density due to inactivity, which may lead to osteoporosis and bone fractures.
- Pneumonia: Due to swallowing weakness, accidental inhalation of food particles may occur. This is compounded by overall immobility that results in more shallow breathing and less effective coughing.
- Mobility issues resulting from muscle weakness and spasticity, leading to clumsiness, balance difficulties, unsteady gait, and lack of coordination.
- Musculoskeletal pain emerging in areas such as the back, neck, and joints, especially if mobility becomes difficult.
- Depression: Many people with MS experience depressive episodes. It's uncertain if this results directly from MS, the stress of managing the condition, or a combination.
- Anxiety: Researchers believe that [anxiety in MS](#) arises from the interplay between the disease's impact on the brain and the social and emotional challenges of living with the condition.
- Job loss due to disability.
- Mood swings.
- Difficulty sleeping.
- Cognitive dysfunction caused by depression, anxiety, and/or medications.

What Are the Treatments for Multiple Sclerosis?

Although there's no cure for MS, individuals can still enjoy a fulfilling life. MS therapies aim to decrease relapse frequency, retard disease progression, alleviate symptoms, and enhance overall quality of life. Treatment plans are tailored to symptom severity and disease activity. Several types of treatment options include the following:

1. Disease-Modifying Therapies (DMTs)

Disease-modifying therapies are used to minimize the damage and scarring to the myelin sheath linked to relapses.

[Over 16 DMTs](#) have been approved by the U.S. Food and Drug Administration (FDA) for MS treatment. DMTs are effective in reducing relapses and neurologic disability but don't address chronic symptoms or restore lost function.

DMTs are [not suitable](#) for all MS patients; they are typically prescribed for those with relapsing-remitting MS, secondary progressive MS, and primary progressive MS, with the last two groups meeting specific criteria. Individuals without relapses are less likely to benefit from these treatments.

Early DMT treatment is crucial for reducing long-term disability, and factors like relapse frequency, age, or disability level do not restrict it. Treatment continues until it's no longer effective, side effects become intolerable, or a superior treatment emerges. Like all other medications, DMTs may have side effects.

Injectables

- **Beta interferon drugs:** Among the most common MS treatments, these regulate immune cells. Efficacy may decline after 18 to 24 months, prompting potential treatment changes.
- **Glatiramer acetate:** Glatiramer acetate alters immune cell balance, though its exact mechanism is unclear. Side effects are typically mild, including local injection site reactions.

Infusions

- **Natalizumab:** This monoclonal antibody prevents immune cells from entering the brain and spinal cord but increases the risk of a potentially fatal viral brain infection. It's typically recommended for resistant disease or those who cannot tolerate other first-line treatments.
- **Ocrelizumab:** This is the sole FDA-approved therapy for primary progressive MS. It targets immune cells that produce antibodies linked to MS lesion formation. Side effects include infusion-related reactions, infection risk, and a potential increase in cancer risk.
- **Alemtuzumab:** As it focuses on immune cell surface proteins and increases the risk of autoimmune disorders, this is recommended for those with inadequate responses to at least two MS therapies.
- **Mitoxantrone:** This is a chemotherapy drug approved for severe forms of relapsing-remitting and secondary progressive MS, but it comes with side effects, including a slight risk of certain blood cancers and heart damage. It's used when all other methods fail for rapidly deteriorating MS cases unresponsive to other treatments.

Oral

- **Fingolimod:** As the first FDA-approved MS drug for adolescents and children aged 10 and older, fingolimod cuts MS relapse rates in both adults and children. It keeps lymphocytes from exiting lymph nodes and entering the blood, brain, and spinal cord, but it can initially cause slow heart rate and eye issues. It may also elevate infection risk, including for herpes infections.
- **Dimethyl fumarate:** This is for relapsing forms of MS, with side effects including flushing, diarrhea, nausea, and reduced white blood cell count.

- **Teriflunomide:** This immunomodulatory agent reduces the proliferation of activated immune cells and can lead to nausea, diarrhea, liver damage, and hair loss.
- **Cladribine:** This targets specific immune cells driving MS attacks and may raise cancer risk. It is typically considered for those with poor responses to other MS treatments.
- **Siponimod:** With a similar mechanism of action to fingolimod, siponimod treats secondary progressive MS.

2. MS Relapse Treatment

Sometimes, infection, stress, and heat can exacerbate previous symptoms, triggering a pseudo-relapse.

Relapse treatment often involves a five-day course of steroids taken at home. Steroids can quicken recovery from a relapse but cannot prevent future relapses or MS progression.

However, using steroids too frequently can lead to side effects such as infection, mood changes, stomach ulcers, osteoporosis, and diabetes. To minimize these risks, it's best to limit steroid use to no more than three times a year.

3. Symptom Treatment

Many treatments and medications are available for different MS symptoms, including:

- **Fatigue:** Cognitive behavioral therapy, daily physical activity programs, occupational therapy, central nervous system stimulants (e.g., amantadine, methylphenidate, and modafinil), and stress management programs are recommended.
- **Vision problems:** Eye and vision issues in MS rarely cause permanent blindness, and they usually improve within weeks without any medical interventions. In more severe cases,

intravenous steroids, specialized eyeglasses, and taking breaks to rest the eyes may be advised.

- **Muscle problems:** Muscle spasms and stiffness may improve with physiotherapy, water therapy, yoga, and [muscle relaxants](#) (e.g., baclofen).
- **Mobility problems:** An exercise program, vestibular rehabilitation exercises, mobility aids (e.g., walking stick or wheelchair), home adaptations (e.g., stair lifts), the drug dalfampridine (which can improve walking for some), and physical therapy may be suggested.
- **Pain:** Recommended options may include transcutaneous electrical nerve stimulation (TENS), analgesics, muscle relaxants, anti-inflammatory agents, heat, massage, and physical therapy.
- **Cognitive impairment:** Donepezil and similar drugs may help in certain situations.
- **Depression:** Antidepressants, cognitive behavioral therapy, tricyclic antidepressants (e.g., amitriptyline), and selective serotonin reuptake inhibitors (SSRIs, e.g., citalopram) may be recommended.
- **Bladder problems:** Intermittent self-catheterization (ISC), a long-term catheter, hand-held external stimulators, urinary antispasmodics (e.g., flavoxate), and many other drugs may help with bladder issues.
- **Bowel dysfunction:** A high-fiber diet, laxatives, suppositories, enema, anti-diarrhea medications, pelvic floor exercises, and stool softeners may be used.
- **Speech and swallowing problems:** Treatment options may include speech therapy, exercises to strengthen the mouth muscles, and anticholinergics.

- **Tremor:** Assistive devices and weights attached to utensils, anticonvulsants (e.g., gabapentin), deep brain stimulation, and drugs (e.g., clonazepam) may help treat tremors.
- **Pseudobulbar affect:** A combination treatment of dextromethorphan and quinidine, as well as other medications such as amitriptyline or citalopram, can be effective.
- **Vertigo:** Anti-emetics, which are anti-nausea drugs like dimenhydrinate, may be helpful.

How Does Mindset Affect Multiple Sclerosis?

A positive mindset or attitude may help MS patients reduce their risk of a relapse/attack. According to [a study](#) involving 243 MS patients, individuals in remission had a more positive attitude toward their disease than those with a chronic progressive form of the condition. Whether this is cause or effect is not clear.

[A meta-analysis](#) of 22 studies involving a total of 5,705 MS patients discovered that after psychological therapy was implemented, there was an overall enhancement in the patients' psychological and physical well-being. Physical symptoms, such as fatigue, sleep problems, pain, and physical vitality, were positively affected. These findings indicate a promising connection between psychological treatments, which typically result in a more positive mindset toward the condition and physical MS symptoms.

MS patients can try to keep a positive attitude by hanging out with optimistic friends, maintaining a healthy lifestyle, and practicing positive self-talk.

What Are the Natural Approaches to Multiple Sclerosis?

The natural approaches that may help in treating MS symptoms include the following:

1. Herbal Therapies

Some studies have shown that certain [medicinal herbs](#) positively affect MS symptoms. However, further research is needed to confirm their effectiveness. Some evidence indicates the following herbs may help:

- **Black seed (*Nigella sativa*):** In animal MS experiments, black seed showed positive effects by helping repair the myelin in the central nervous system, reducing inflammation, and lowering the activity of specific molecules involved in MS.
- **Evening primrose (*Oenothera biennis*):** Evening primrose oil, derived from the plant's seeds, has several pharmacological effects, including anti-inflammatory and immune-modulating properties relevant to MS treatment. It contains omega-6 fatty acids and is the most used herbal supplement in MS patients. Clinical trials demonstrated improved manual dexterity in MS patients with evening primrose oil. [Older studies](#) indicated evening primrose could help shorten and lessen the severity of relapses, but the reanalysis of these studies used questionable statistical methods, so new research is warranted.
- **Ginkgo (*Ginkgo biloba*):** Research indicates that ginkgo extract EGB761, known for its anti-inflammatory and platelet-activating factor (PAF) inhibiting properties, can be effective for treating MS. PAF's involvement in inflammation is well-documented, and ginkgo's major component, ginkgolides, play a crucial role in reducing PAF activity, potentially making this plant a therapeutic option for MS. In addition, ginkgo has shown some promise in alleviating fatigue in MS patients. Importantly, ginkgo is generally considered safe and lacks significant side effects.
- **Valerian (*Valeriana officinalis*):** MS patients may consider

consuming valerian due to its potential to improve sleep issues and alleviate fatigue.

- **Ginger (*Zingiber officinale*):** Ginger is known for its anti-cancer, antioxidant, and anti-inflammatory properties. MS patients consume it for its anti-inflammatory capabilities. Positive effects of ginger and its active compounds, including 6-shogaol and 10-gingerol, have been demonstrated in animal models of MS, showing anti-inflammatory and neuroprotective effects.
- **Saffron (*Crocus sativus*):** Saffron's antidepressant properties can be beneficial for managing depression in individuals with MS.
- **Asian ginseng (*Panax ginseng*):** Ginseng may help reduce inflammation and fatigue in MS.
- **Boswellia papyrifera:** *Boswellia papyrifera* is a type of tree that produces the resin frankincense. Known for its anti-inflammatory and neuroprotective properties, it may improve cognitive function in MS patients. In a clinical trial, those who received *B. papyrifera* showed significant memory improvement.
- **Common grape vine (*Vitis vinifera*):** Resveratrol, found in grapes, has shown neuroprotective and anti-inflammatory properties in various studies. It can penetrate the blood-brain barrier, making it a potential candidate for treating neuroinflammatory and neurodegenerative diseases. However, more research is required to confirm its therapeutic potential in MS.
- **Tianma (*Gastrodia elata*):** The neuroprotective and anti-neuroinflammatory properties of tianma, a type of Chinese medicinal herb, make it a promising candidate for MS therapy by reducing oxidative stress and safeguarding neurons. Having been primarily studied in animals, clinical studies are needed.
- **St. John's wort (*Hypericum perforatum*):** St. John's wort may be an option for individuals with MS because of its antidepressant,

antioxidant, and anti-inflammatory properties.

2. Nutritional Supplements

The following [supplements may be helpful](#) for MS patients:

- **Antioxidant vitamins:** Vitamins A, C, and E are beneficial in MS due to their ability to combat free radicals, thus helping prevent myelin damage and injury.
- **Vitamin D:** Low vitamin D intake is associated with high MS prevalence, and vitamin D deficiency is linked to faster MS progression.
- **Vitamin B12:** Vitamin B12 deficiency can harm the spinal cord and optic nerve, so MS patients with this deficiency may benefit from supplements.
- **Antioxidants:** In MS patients, low antioxidant levels and reduced antioxidant enzyme activity lead to oxidative stress, causing cell damage or death.
- **Polyunsaturated fatty acids (omega-3 fatty acids):** The risk of developing MS rises with high saturated fat intake, but omega-3 fatty acids, known as immune system regulators, can help by reducing inflammatory cytokine levels.
- **Linoleic acid:** Studies suggest linoleic acid may play a role in regulating cell-mediated immunity and can help manage MS.

3. Special Diets

People with MS may benefit from the following diets:

- **Low-fat diet:** [A low-fat diet](#), with limited saturated fat intake, may help reduce the severity of MS and the frequency of relapse episodes. As per research, those who consumed less than 20 grams a day of saturated fat had lower mortality rates and reduced severe disability compared to those with higher saturated fat

severe disability compared to those with higher saturated fat intake.

- **Modified Mediterranean diet:** [A pilot study](#) discovered that a modified Mediterranean diet, [considered anti-inflammatory](#), reduced fatigue, the impact of MS symptoms, and disability.
- **Ketogenic diet:** A [keto diet](#) is a low-carbohydrate diet with moderate protein restriction to induce ketosis without limiting fat intake. [Adopting a ketogenic diet](#) can potentially result in weight loss, reduced fatigue and depression, and improved quality of life among MS patients. However, the long-term safety of this diet has not been definitively confirmed.
- **Swank diet:** [The Swank diet](#) is a low-fat diet with daily consumption limited to less than 40 grams of unsaturated fats and less than 15 grams of saturated fats. According to research, this diet may be associated with a decreased risk of premature death and disability in MS patients over time.

4. Homeopathy

Homeopathy is a medical system that relies on two unconventional principles, including “like cures like,” which suggests that a substance causing symptoms in healthy individuals can treat similar disease symptoms, and the “law of minimum dose.” Therefore, homeopathic remedies are administered in a significantly diluted form, ensuring their nontoxicity.

Certain [homeopathic treatments](#) are commonly used to address MS symptoms. However, the research evidence for effectiveness is lacking. These remedies include the following:

- Causticum for bladder symptoms and urinary retention.
- Opium, Alumina, Nux vomica, and sulphurarte for bowel dysfunction, particularly constipation.
- Phosphorus, especially when combined with Hypericum, may help

with optic neuritis.

- Gelsemium for double vision.
- Cuprum metallicum, Cuprum arsenicum, Nux vomica, Ignatia, and Secale may be effective for cramps, spasms, and sensory symptoms in MS patients.

5. Aromatherapy

[Aromatherapy](#) is a holistic approach that harnesses the power of essential oils to promote overall health and well-being. For individuals with MS, aromatherapy might offer [relief from certain symptoms](#), including pain, and enhance factors such as sleep, relaxation, joint and muscle mobility, and overall well-being.

6. Acupuncture and Reflexology

Acupuncture has the potential to alleviate [various MS-related symptoms](#), such as pain, spasticity, numbness, tingling, bladder issues, and depression.

Reflexology, involving pressure on specific [foot points](#) linked to internal organs, may improve various [MS symptoms](#) such as paresthesia, muscle strength, and spasticity. It can also reduce pain and spasms and improve bladder, bowel, walking, and overall quality of life. In a 71-patient study, reflexology helped alleviate symptoms like sensation loss, muscle weakness, and cramps following an 11-week treatment.

7. Mind-Body Practices and CAM

Complementary and alternative medicine (CAM) covers treatments and practices outside mainstream medicine. Integrative medicine combines both mainstream and complementary approaches. CAM may include supplements, lifestyle changes (like stress reduction), meditation, physical activities (e.g., yoga and chiropractic manipulation), and pain management.

Yoga enhances MS patients' [overall well-being](#) by improving mobility, muscle strength, activity, mental function, and balance, as well as reducing fatigue and spasticity.

[Exercise and physical activity](#) can also effectively manage various MS symptoms, improving cardiovascular fitness, strength, bladder and bowel function, fatigue, mood, cognitive function, bone density, and flexibility.

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Additionally, meditation may assist in [pain reduction](#) and enhance quality of life scores in individuals with MS.

How Can I Prevent Multiple Sclerosis?

Since the exact cause of MS is unknown, preventing the condition and its attacks is virtually impossible. However, individuals with relapsing-remitting MS and secondary progressive MS can potentially reduce the frequency of relapses and postpone disability through medication and a healthy lifestyle.

Disease-modifying therapies are effective in reducing relapses. In addition, a healthy lifestyle may help. These include the following:

- **Nutritious and balanced diet:** Consume a diet rich in fruits.

vegetables, whole grains, healthy fats, and lean protein. Limit added sugars, unhealthy fats, foods high in sodium, and processed foods.

- **Regular exercise:** Physical exercise can help maintain muscle strength and physical function.
- **Stress management:** Managing stress with methods such as yoga and meditation can result in reduced chance of relapse, better mental health, and improved quality of life.
- **Tobacco avoidance:** Avoiding smoking and secondhand smoking reduces the risk of developing MS or helps improve disease progression.

Medically reviewed by [Beverly Timerding, MD](#).

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Mercura Wang
Author

Mercura Wang is a health reporter for The Epoch Times. Have a tip? Email her at: mercura.w@epochtimes.nyc

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