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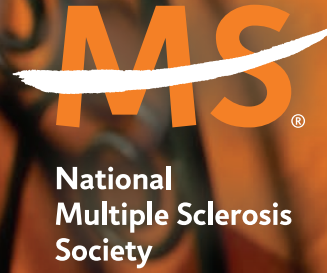
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# What is Multiple Sclerosis?



**KIM**  
DIAGNOSED IN 1986

## What is MS?

Multiple sclerosis (or MS) is a chronic, often disabling disease that attacks the central nervous system (brain and spinal cord). Symptoms may be mild, such as numbness in the limbs, or severe, such as paralysis or loss of vision.

MS is thought to be an immune-mediated disease in which the body's immune system attacks myelin, the fatty substance that surrounds and protects the nerve fibers of the central nervous system.

The damaged myelin forms scar tissue (sclerosis). Often the nerve fiber is also damaged. When any part of the myelin sheath or nerve fiber is damaged or destroyed, nerve impulses traveling to and from the brain and spinal cord are distorted or interrupted.

Recent research indicates that people with MS may live an average of about seven years less than the general population because of disease complications or other medical conditions. Attention to overall health and wellness can help reduce the risk of other medical conditions, such as heart disease and stroke, that can contribute to a shortened life expectancy.

## What are its symptoms?

The symptoms of MS may include tingling, numbness, painful sensations, slurred speech, and blurred or double vision. Some people experience muscle weakness, poor balance, poor coordination, muscle tightness or spasticity, tremors, or paralysis, which may be temporary or permanent. Problems with bladder, bowel, sexual function or mood (particularly depression and anxiety) are also very common. Fatigue is a major concern for most people with MS, as are challenges with memory, attention and concentration. Symptoms may come and go, appear in any combination, and be mild, moderate or severe.

## Can MS be treated?

Yes. Today there are many disease-modifying medications approved by the Food and Drug Administration (FDA) to treat MS; these medications have been shown to be effective in reducing disease activity in relapsing forms of MS. Several are given by injection, some are taken orally, and others are delivered by infusion. Refer to [nationalMSSociety.org/meds](http://nationalMSSociety.org/meds) for the most up-to-date information.

The MS Coalition released a consensus about the disease-modifying therapies: <http://ntl.ms/coalitionDMTsummary> which summarizes research that shows that taking a disease-modifying therapy is the best way to reduce MS disease activity and can improve quality of life for people with MS. Experts agree that treatment with one of these medications be considered as soon as possible following a confirmed diagnosis of MS with a relapsing course.

Treatment may be recommended even before an individual is definitely diagnosed if the person has experienced one episode of neurologic symptoms that are consistent with MS (clinically isolated syndrome) and has evidence of MS lesions as seen on an MRI scan.

Steroids may be used to shorten acute attacks. Other medications are in various stages of clinical trials or are under review by the FDA, and researchers are hopeful that more treatments for MS will be available in the near future. For updates, please check [nationalMSSociety.org](http://nationalMSSociety.org).

Healthcare providers use a wide range of medications and management strategies to relieve or moderate MS symptoms such as spasticity, bowel and urinary distress, pain, fatigue, or depression. Among the medications are some that have been specifically approved for use in MS, including Ampyra® to improve walking; Botox® to relieve upper limb spasticity and certain types of bladder problems; and Nuedexta® to treat uncontrollable laughing and crying. The management strategies used to manage symptoms and help people maintain their independence and quality of life include physical therapy, exercise, vocational and cognitive rehabilitation, attention to diet, adequate rest and counseling. Prompt management of symptoms is vital and should be discussed with a knowledgeable physician.

### Who gets MS?

More than 2.3 million people are affected by MS worldwide. Most are diagnosed between the ages of 20 and 50, and about two thirds are women. The disease is more frequently found among people raised in colder climates. Studies indicate that genetic factors make certain individuals susceptible to the disease, but there is no evidence that MS is directly inherited.



### What happens in MS?

MS is an unpredictable disease. Symptoms vary greatly from person to person and vary over time in the same person.

Periods of active MS symptoms are called attacks, exacerbations, or relapses. These can be followed by quiet periods called remissions.

The disease ranges from very mild and intermittent to steadily progressive. Some people have few attacks and little, if any,

accumulation of disability over time. At diagnosis, most people have relapsing-remitting disease. This means they have attacks followed by periods of partial or total remission that may last months or even years. Others experience a progressive disease course with steadily worsening symptoms. The disease may worsen steadily from the onset (primary progressive MS) or may become progressive after a relapsing-remitting course (secondary progressive MS).

Because MS affects individuals so differently, it is difficult to make generalizations about disability. Statistics suggest that 2 out of 3 people with MS remain able to walk over their lifetime, though many of them will need a cane or other assistive device. Some will choose to use a scooter or wheelchair to conserve energy or manage balance problems. Others will require a wheelchair to maintain mobility.

The disease-modifying treatments, which have been in use only since the 1990s, may favorably alter this projection.

## Is MS easily diagnosed?

MS is not always easy to diagnose because symptoms may come and go. In addition, other diseases of the central nervous system have some of the same symptoms. No single neurological or laboratory test can confirm or rule out MS.

Medical imaging, particularly MRI (magnetic resonance imaging), helps to clarify the diagnosis. A conclusive or definitive diagnosis requires evidence of multiple patches of scar tissue in different parts of the central nervous system and evidence of at least two separate attacks of the disease. A definitive diagnosis can take several months.

## Do we know the cause of MS?

Not yet. The cause of MS and how we can stop progression, restore function, and ultimately end MS forever, are the subjects of intensive worldwide research. More than 380 research grants and fellowships receive funding from the National MS Society. Knowledge about MS is expanding and many clinical trials are in progress.

## The National MS Society

Information, local referrals, publications, programs and volunteer opportunities are available across the country.

Call 1-800-344-4867 or visit **[nationalMSsociety.org](http://nationalMSsociety.org)**.

The National MS Society's mission is for people affected by MS to live their best lives as we stop MS in its tracks, restore what has been lost and end MS forever. To fulfill this mission, the Society funds cutting-edge research, drives change through advocacy, facilitates professional education, collaborates with MS organizations around the world, and provides services designed to help people with MS and their families move their lives forward.

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