



National
Multiple Sclerosis
Society

MOVING CLOSER TO A WORLD FREE OF MS

Fact sheet: multiple sclerosis

What's multiple sclerosis?

Multiple sclerosis is an unpredictable, often disabling disease of the central nervous system that interrupts the flow of information within the brain and between the brain and the body. Symptoms range from numbness and tingling to blindness and paralysis. The progress, severity and specific symptoms of MS in any one person can't yet be predicted, but advances in research and treatment are moving us closer to a world free of MS.

Who gets MS?

Most people with MS are diagnosed between the ages of 20 and 50, and at least two to three times more women than men. There are an estimated 10,000 children under the age of 18 who also live with MS. Studies suggest genetic factors make certain individuals more susceptible to the disease, but there's no evidence MS is directly inherited. It occurs more commonly among Caucasians, especially those of northern European ancestry, but people of African, Asian and Hispanic backgrounds aren't immune.

How many people have MS?

There are more than 17,000 people living with MS in the Upper Midwest Chapter territory — Iowa, Minnesota, North Dakota, South Dakota and counties in western Wisconsin and Nebraska — and 2.1 million worldwide.

What are the typical symptoms of MS?

Symptoms of MS are unpredictable and vary greatly from person to person and from time to time in the same person. For example, one person with MS may experience abnormal fatigue and another may have vision problems. While one person with MS may experience a loss of balance, muscle coordination or tremors — making walking and everyday tasks difficult to perform — another may have slurred speech and memory issues.

What causes the symptoms of MS?

In MS, symptoms result when inflammation and breakdown occur in myelin, the protective insulation surrounding the nerve fibers of the central nervous system, which is comprised of the brain, spinal cord and optic nerve. Myelin is destroyed and replaced by scars of hardened "sclerotic" patches of tissue. Such lesions are called "plaques" and appear in "multiple" places within the central nervous system. This can be compared to a loss of insulating material around an electrical wire, which interferes with the transmission of signals.

Is MS fatal?

In rare cases, MS is so malignantly progressive, it's terminal, but most people with MS have a normal or near-normal life expectancy. Severe MS can shorten life.

Does MS always cause paralysis?

No. The majority of people who live with MS don't become severely disabled. Two-thirds of people remain able to walk, though many will require an aid, such as a cane, and some will use a scooter or wheelchair to conserve energy.

Is MS contagious or inherited?

No. MS is neither contagious nor directly inherited; however, studies suggest genetic factors make certain individuals more susceptible than others.

Can MS be cured?

Not yet. However, advances in treating and understanding MS are achieved daily, and the progress in research to find a cure is encouraging. In addition, therapeutic and technological developments are helping people manage symptoms and lead more productive lives. Several FDA-approved medications are available and have been shown to slow the underlying course of the disease for many people with MS.

What medications and treatments are available for MS?

The National Multiple Sclerosis Society recommends people begin treatment with one of the following disease-modifying drugs — Aubagio®, Avonex®, Betaseron®, Copaxone®, Extavia®, Gilenya® or Rebif® — upon a diagnosis of a relapsing form of MS, the most common kind. These drugs help to lessen the frequency and severity of MS attacks, reduce the accumulation of lesions in the brain and may slow the progression of disability.

Novantrone® is approved for reducing disability and/or frequency of exacerbations in patients with worsening relapsing MS. This is the first therapy approved in the United States for people with secondary-progressive MS or who are experiencing a rapid worsening of the disease. In addition, approved by the FDA for return to market, is Tysabri®, which is generally recommended for patients who have had inadequate response to, or are unable to tolerate, other approved disease-modifying MS therapies for relapsing forms of MS.

Many therapies are available to treat symptoms such as spasticity, pain, bladder problems, fatigue, sexual dysfunction, weakness and cognitive issues. People should consult with a knowledgeable physician to develop a comprehensive approach to managing their MS.

Why is MS so difficult to diagnose?

In early MS, elusive symptoms that come and go might indicate any number of possible disorders. Some people have symptoms very difficult for physicians to interpret, and these people must "wait and see." While no single laboratory test is available to prove or rule out MS, magnetic resonance imaging (MRI) helps physicians reach a definitive diagnosis.

What are the different types of MS?

In an effort to develop a common language when discussing, evaluating and treating MS, the Society conducted an international survey among scientists who specialize in MS research and patient care. Analysis of the responses resulted in the following four definitions of disease categories.

- **Relapsing-remitting**
Characteristics: People with relapsing-remitting MS experience clearly defined flare-ups (relapses) or episodes of acute worsening of neurologic function. These are followed by partial or complete recovery periods (remissions) between attacks that are free of disease progression. Frequency: *Most common form of MS at time of initial diagnosis. Approximately 85 percent at onset.*
- **Primary-progressive**
Characteristics: People with primary-progressive MS experience a nearly continuous worsening of their disease from the onset, with no distinct relapses or remissions. However, there are variations in rate of progression over time, occasional plateaus and temporary minor improvements. Frequency: *Relatively rare. Approximately 10 percent at onset.*
- **Secondary-progressive**
Characteristics: People with secondary-progressive MS experience an initial period of relapsing-remitting disease (see above) followed by a steady worsening disease course with or without occasional flare-ups, minor remissions (recoveries) or plateaus. Frequency: *If left untreated, 50 percent of people with relapsing-remitting MS develop this form of the disease within 10 years of initial diagnosis.*
- **Progressive-relapsing**
Characteristics: People with progressive-relapsing MS experience a steady worsening disease from the onset but also have clear acute flare-ups (relapses), with or without recovery. In contrast to relapsing-remitting MS, the periods between relapses are characterized by continuing disease progression. Frequency: *Relatively rare. Approximately 5 percent at onset.*

Since no two people have exactly the same experience of MS, the disease course may look very different from one person to another. It may not always be clear to the physician — at least right away — which course a person is experiencing.