

Below, we have provided some basic information for your benefit. Please use this information as an educational aid only. It is not intended as medical advice for individual conditions or treatments. Talk to your doctor, nurse or pharmacist before following any medical regimen to see if it is safe and effective for you.

Multiple sclerosis

What is multiple sclerosis?

Multiple sclerosis (MS) is a neurological condition. It is a disease in which the nerves of the central nervous system (brain and spinal cord) degenerate. Myelin, which provides a covering or insulation for nerves, improves the conduction of impulses along the nerves and is also important for maintaining the health of the nerves. In multiple sclerosis, inflammation causes the myelin to disappear. Consequently, the electrical impulses that travel along the nerves decelerate, that is, become slower. In addition, the nerves themselves are damaged. As more and more nerves are affected, a person experiences a progressive interference with functions that are controlled by the nervous system such as vision, speech, walking, writing, and memory.

About 350,000 people in the U.S. and 100,000 in the UK have multiple sclerosis. It is more common for a person to be diagnosed with multiple sclerosis between 20 and 50 years of age, but multiple sclerosis has been diagnosed in children and in the elderly. Multiple sclerosis is twice as likely to occur in Caucasians as in any other group and women are twice as likely as men to be affected by multiple sclerosis earlier in life.

What causes multiple sclerosis?

The cause of multiple sclerosis is still unknown. In the last 20 years, researchers have focused on disorders of the immune system and genetics for explanations. The immune system is the body's defender and is highly organized and regulated. If triggered by an aggressor or foreign object, the immune system mounts a defensive action which identifies and attacks the invader and then withdraws. This process depends upon rapid communication among the immune cells and the production of cells that can destroy the intruder. In multiple sclerosis, researchers suspect that a foreign agent such as a virus alters the immune system so that the immune system perceives myelin as an intruder and attacks it. The attack by the immune system on the tissues that it is supposed to protect is called autoimmunity, and multiple sclerosis is believed to be a disease of

autoimmunity. While some of the myelin may be repaired after the assault, some of the nerves are stripped of their myelin covering (become demyelinated). Scarring also occurs.

What are the symptoms of multiple sclerosis?

Symptoms of multiple sclerosis may be single or multiple and may range from mild to severe in intensity and short to long in duration. Complete or partial remission from symptoms occurs early in about 70% of individuals with multiple sclerosis.

- Visual disturbances may be the first symptoms of multiple sclerosis, but they usually subside. A person may notice a patch of blurred vision, red-to-orange or red-to-gray distortions (color de- saturation), or mono-ocular visual loss (loss of vision in one eye). Visual symptoms due to optic nerve inflammation (optic neuritis) in multiple sclerosis usually are accompanied or preceded by eye pain.
- Limb weakness with or without difficulties with coordination and balance may occur early.
- Muscle spasms, fatigue, numbness, and prickling pain are common symptoms.
- There may be a loss of sensation, speech impediment (typically a problem articulating words), tremors, or dizziness.

Fifty-percent of people experience mental changes such as:

- decreased concentration
- attention deficits
- some degree of memory loss
- inability to perform sequential tasks,
- Or varying degrees of impairment in the ability to make a judgment.

Other symptoms may include:

- Depression
- Manic depression
- Paranoia, or
- An uncontrollable urge to laugh and weep.

As the disease worsens, individuals may experience sexual dysfunction or reduced bowel and bladder control. Heat appears to intensify multiple sclerosis symptoms for about 60% of those with the disease.

Pregnancy seems to reduce the number of attacks, especially during the third trimester.

Thank you.