

 [Return to Web version](#)

## Multiple Sclerosis

### Overview

#### What is multiple sclerosis (MS)?

Multiple sclerosis is an autoimmune disease that affects the nervous system. Normally, antibodies produced by the immune system help protect the body against viruses, bacteria and other foreign substances. In people who have MS, the immune system destroys the substance that surrounds and protects your nerve cells – the myelin sheath.

The job of the nervous system is to send electrical messages back and forth from the brain to different parts of the body. Normally, the brain quickly sends signals through the spinal cord and then through nerves that branch out to all organs and body parts. When myelin around nerves is damaged or destroyed, the nerves can't function properly to deliver these signals in the right way. This can cause symptoms throughout the body.

#### What is it like living with multiple sclerosis?

The most common form of MS is known as relapsing-remitting MS (RRMS). When people who have this kind of MS have flare-ups, the symptoms become noticeably worse. Then there is a period of recovery, when symptoms get better or disappear completely for some time. In RRMS, symptom flare-ups may be triggered by an infection, such as the flu. More than 50% of people who have RRMS develop the secondary progressive type in which there are relapses followed by a gradual worsening of the disease.

About 15% to 20% of people who have MS have a form known as primary-progressive MS (PPMS). In this kind of MS, the disease gets steadily worse, without any remissions. A fourth type—progressive relapsing MS—is rare, but the pattern follows a worsening of the disease with sudden, clear relapses.

Often MS is mild, but some people lose the ability to write, speak or walk.

### Symptoms

#### What are the symptoms of multiple sclerosis (MS)?

MS affects normal sensation, thinking and movement. Symptoms vary from person to person, depending on the area of the body where the myelin sheath is damaged. Symptoms of MS may come and go. Flare-ups may last for days, weeks or months. After an episode, your symptoms may disappear for a while (go into remission), but scars can form and permanently affect nerves in that area.

Common symptoms include:

- Vision problems, including double vision, blurriness, partial color blindness, eye pain,

- partial or complete loss of vision in one eye
- Thinking and memory problems
- Fatigue
- Muscle weakness, dizziness or tremor
- Numbness or weakness on one side or the bottom half of your body
- Trouble with coordination and balance
- Loss of bowel or bladder control
- Sensations such as numbness or tingling, "pins and needles"
- Electric-shock sensations caused by moving your head in a certain way

## *Causes & Risk Factors*

### **Who gets multiple sclerosis (MS)?**

MS affects women more than twice as often as men. White (Caucasian) people are more likely to develop it than people of other races. If someone in your family--such as a parent or sibling--has MS, you have a greater risk of developing it, too. MS can affect people of any age, but it often begins between the ages of 20 and 40. If you have another autoimmune disease, such as thyroid disease or Type 1 diabetes, your risk of developing MS is slightly higher.

Some studies show that where you live can affect your risk of getting MS. People who spend their childhood in areas with a temperate climate, such as northern United States or southern Canada, seem to be at higher risk for MS.

### **What causes MS?**

No one really knows for sure what causes MS. It's most likely the result of a combination of environmental, viral and genetic factors. A number of different viruses have been linked to MS. A childhood virus may trigger MS later in life.

## *Diagnosis & Tests*

### **How do I know if I have multiple sclerosis (MS)?**

There is no one test to tell if you have MS. Like other autoimmune diseases, MS may be difficult to diagnose. Often, the first symptoms of MS affect the eyes, causing blurred or double vision, or red-green color distortion. However, symptoms can also affect different parts of the body. Your doctor will ask you about your medical history, and use several strategies to determine if you have MS. Before making a diagnosis, your doctor will rule out other possible causes of your symptoms.

Your doctor may also order tests:

**Blood test.** Your blood can show signs of other illnesses that cause symptoms similar to the symptoms of MS.

**Neurological tests.** Your doctor may want you to see a neurologist who can test how well your nervous system is working. The tests will look for changes in eye movements, muscle coordination, weakness, balance, sensation, speech, and reflexes.

**Spinal tap (lumbar puncture).** A small amount of fluid taken from your spine can show abnormal amounts of blood cells or proteins associated with MS. A spinal tap can also rule out a viral infection or other possible conditions.

**Magnetic Resonance Imaging (MRI).** An MRI can show detailed pictures of the brain and spinal cord, and if there are any lesions present. However, lesions aren't always caused by MS.

## *Treatment*

### **How is multiple sclerosis (MS) treated?**

There is currently no cure for multiple sclerosis. A combination of medicines, physical, speech and occupational therapies may help you cope with and relieve your symptoms, slow the progress of the disease and maintain a good quality of life.

### **How can medicines help?**

Some medicines for MS can help relieve symptoms and treat specific problems. Other medicines can affect the long-term outcomes of the disease.

Some people who have mild symptoms choose not to take certain medicines because of the risks associated with them and the possibility of serious side effects. Your doctor will talk to you about the risks and benefits of taking medicines to treat MS.

### **What symptoms of MS can medicines treat?**

Specific medicines can treat some of the common symptoms of MS. These include:

- Bladder problems: tolterodine, oxybutynin
- Constipation: stool softener, laxative
- Depression: venlafaxine, paroxetine
- Erectile dysfunction: tadalafil, alprostadil
- Pain: phenytoin, gabapentin
- Muscle stiffness and spasms (spasticity): dantrolene, baclofen
- Urinary problems: desmopressin, methenamine, phenazopyridine

### **What about steroids?**

During flare-ups, affected nerve areas can become inflamed. You may have pain and loss of function in parts of your body. Steroids reduce inflammation, so that you can return to normal function sooner. Some examples of steroids given for MS include prednisone (taken by mouth) and methylprednisolone (given as a shot). Steroids are usually taken for a short period of time to help with symptoms. They do not treat the long-term outcomes of MS.

### **What medicines treat the long-term effects of MS?**

**Interferons** are a group of natural proteins made by human cells. Interferons seem to slow the worsening of symptoms of MS over time. These kinds of medicine are usually given as an injection (a shot). Some examples of interferons used to treat MS include IFN Beta-1a and IFN Beta-1b. Interferons may cause serious liver damage as a side effect. Other side effects include flu-like symptoms and depression.

**Glatiramer acetates** are thought to block the cells that damage myelin, the substance that surrounds and protects your nerve cells. People taking this drug usually experience fewer relapses and fewer new nerve cell lesions. The medicine is given as a shot (injected with a needle) once a day. Side effects may include hives or pain at the injection site, heart palpitations and shortness of breath.

## What other medicines are used to treat MS?

Natalizumab and mitoxantrone are 2 other kinds of medicine that treat more serious or advanced multiple sclerosis.

People who have tried other drugs first and have not had good results may try natalizumab. However, natalizumab can have serious side effects, and it should not be used in combination with other disease-modifying drugs. One of the known side effects is an increased risk of a fatal brain infection.

Mitoxantrone is sometimes used by people whose relapsing-remitting MS has worsened or changed to progressive MS, in which symptoms get steadily worse. Side effects include lowered resistance to infection, and increased risk of blood and heart disease.

## How can other therapies help?

Different therapies can be helpful for some people who have MS. Some of the common ones are listed below.

**Physical Therapy (PT)** can help with walking, strength, balance, posture, fatigue and pain. PT can include stretching and strengthening exercises, and training to use mobility aids like canes, scooters or wheelchairs. Your physical therapist can also help you adapt your exercise routine to accommodate your symptoms or flare-ups.

**Occupational Therapy (OT)**. The goal of OT is to help improve your level of independence and safety at home and at work. Your therapist can show you how to use tools to help in daily tasks. Your therapist can also recommend changes to your physical living or working space to make your tasks easier. Your therapist may help you continue to pursue activities or hobbies that you enjoy.

**Speech Therapy**. MS can cause problems with the control of the muscles used for talking and swallowing. A speech therapist can help you learn to communicate as clearly as possible, and also teach you to practice safe swallowing.

## How can I keep myself as healthy as possible?

Living with MS may require you to make some lifestyle changes. These changes can help keep you as strong and healthy as possible. Below are some tips that may help.

**Nutrition**. Eat a nutritious, well-balanced diet that is low in fat and high in fiber. A healthy diet will keep your immune system strong, and give you the best chance of good health.

**Physical Activity**. Continue to exercise if your doctor says it is okay. Exercise can help you improve muscle tone and strength, balance and coordination. Stretching exercises can help with stiffness and mobility. Exercise can also help lift your mood.

**Rest**. It is important to get enough exercise, but it is also important to get plenty of rest. MS causes fatigue, so pay attention to your needs. You may have to make accommodations in your work or family schedule to include time for rest.

**Temperature**. Some people who have MS aren't bothered by heat, but be careful using hot tubs or saunas, and taking hot baths or showers. Too much heat can lead to extreme muscle weakness. If heat bothers you, find ways to cool down. A cool bath or air conditioning may help.

**Support.** Get support from friends, family, your community, a support group, your doctor or other health care professionals. Encouragement and reassurance from others will help you better cope with the challenges of living with MS. Try to maintain as normal a life as you can, and continue to do the things you enjoy.

## *Complications*

### **How else can multiple sclerosis (MS) affect my life?**

Living with a chronic illness can often be challenging to your emotional well-being. MS can affect your work, your relationships, your sleep, your diet and your ability to exercise. All of these factors contribute to your mood and mental health. Talking with a trained therapist can help you learn to deal with these challenges, and help you develop ways to get the support you need. A trained therapist can also meet with other family members.

## *Other Organizations*

- [National Multiple Sclerosis Society](#)
- [National Institute of Neurological Disorders and Stroke](#)
- [Multiple Sclerosis Foundation](#)

## *Questions to Ask Your Doctor*

- Does multiple sclerosis run in families? Am I at risk?
- I've been diagnosed with MS. What can I do to prevent a relapse and prevent the condition from getting worse?
- How can I be sure that I have MS? How can I be sure I don't have MS?
- Is there a cure for MS? What research is being done to help treat and cure MS?
- What are the possible side effects of the medicine I'm taking?
- What should I do if I think I'm having a relapse?

## *Multiple Sclerosis and Pregnancy*

### **Will multiple sclerosis (MS) make it hard to get pregnant?**

[Multiple sclerosis](#) is a type of immune disease that affects the nervous system. It does not affect the ability to get pregnant. However, MS may cause symptoms that make sex challenging. Some women who have MS notice dryness in the vagina that may make sex painful. Some men who have MS experience [erectile dysfunction](#) (ED). Fatigue can also make having sex less appealing. Talk to your partner about how you can make sex more inviting. For example, use vaginal lubricants if dryness is a problem, talk to your doctors about options to treat ED, and choose times when you both feel rested and ready to engage in sex.

### **Does pregnancy make MS worse?**

Being pregnant doesn't usually make MS any worse over time. Many women notice that MS symptoms actually improve during pregnancy. Unfortunately, symptoms often return within a few months after giving birth.

### **Will I be at risk for problems during pregnancy?**

MS doesn't appear to increase the risk of problems that can occur during any pregnancy. The risk of having [pregnancy-induced hypertension](#) , also called toxemia or preeclampsia

(say “pre-ee-clamp-see-ah”), or early delivery (premature birth) does not increase with MS.

### **What can I expect during pregnancy?**

If MS affects your ability to walk, you may notice that walking becomes even more difficult during pregnancy. This is because the weight you gain during pregnancy can shift your balance. You might need to be extra careful to avoid falls. You may need crutches or other walking assistance devices, or you may need to use a wheelchair.

You may also notice that you become tired more easily, especially later in the pregnancy. Plan ahead so your schedule allows you to get plenty of rest. Talk to your partner, family and friends if you need help taking care of other children, doing chores or running errands. Ask for the support you need.

**Urinary tract infections** (UTIs) are more common in pregnant women who have MS. Drink plenty of water and let your doctor know if you have any symptoms. Your doctor may want you to have monthly urine tests to make sure a UTI doesn't sneak up on you.

### **Will I be able to keep taking my medicine?**

If you are planning to get pregnant, talk to your doctor *beforehand*. Certain medicines used to treat MS symptoms are not safe for your baby to be taking during pregnancy. These include a group of medicines called “disease-modifying drugs” and another group called “chemotherapeutic drugs,” such as azathioprine or methotrexate. Your doctor may suggest that you stop taking these medicines sometime before trying to get pregnant.

Some other medicines that are considered safe during pregnancy can be helpful in treating MS symptoms. Your doctor may recommend that you change medicines while you are trying to get pregnant and during your pregnancy.

### **Will MS cause problems during labor and delivery?**

Some women who have MS have damage to the spinal cord that interferes with their ability to tell when labor starts. This is rare, but may be a concern for some women. If you have reduced feeling in your pelvic area or abdomen, talk to your doctor. He or she can talk to you about other clues that can help you tell you are starting labor.

Sometimes, women who have MS experience damage to the nerves that help tell the muscles to push during delivery. If this is the case, you may need some extra help to deliver your baby vaginally or you may need a cesarean section (C-section). You may also need a C-section if you become overly tired during labor.

### **Will anesthesia be risky because of MS?**

Studies show that anesthesia is not any more risky for women who have MS than other women during labor.

### **Will my baby be healthy?**

Babies born to women who have MS are no more likely to have birth defects, or physical or mental disabilities than babies of other women. Sometimes, babies of women who have MS have slightly lower birth weights, but this doesn't appear to lead to health problems.

### **Will my baby have MS?**

The risk of your baby developing MS will be slightly higher than for a baby who does not have a family member who has MS. But the risk is still very low.

## Will I be able to breastfeed?

Some medicines may not be safe if you want to breastfeed. And you may need some of these medicines if the symptoms of MS flare after giving birth. Talk to your doctor if you are planning to breastfeed your baby. Your doctor can advise you about what options are available that would allow you to breastfeed safely.

## What can I expect after delivery?

It's a good idea to plan ahead for how you will handle life after giving birth. It's not uncommon for women who have MS to notice an increase in symptoms (called a "flare") after giving birth. You also may feel extra tired. The fatigue combined with the disability or impaired movement can contribute to depression. Even women who do not have MS are at risk for [depression after giving birth](#) (postpartum depression). It's important to let your doctor know if you have feelings of sadness or despair.

## Source

*This information was developed as part of an educational program made possible through support from AstraZeneca.*

Written by familydoctor.org editorial staff

Created: 04/10

