

# understanding your condition

## Multiple Sclerosis

Receiving a medical diagnosis, such as multiple sclerosis (MS), may be overwhelming and scary. Learning about the condition, and how to cope with it, can make it more manageable.

### Condition Introduction

MS is an autoimmune condition. Autoimmune conditions happen when the body mistakenly attacks its own healthy cells, causing damage. In MS, the body attacks the central nervous system (CNS). The CNS is made up of the brain, spinal cord and nerves found in the eye (optic nerves). Within the CNS, the myelin sheath covers nerve cells and fibers that send messages between the brain and spinal cord, and the rest of the body. The myelin sheath can become damaged, exposing and further damaging the nerves. This damage is what produces multiple symptoms unique to each course of the disease.

**There are three different disease courses patients typically experience:**

- 1. Relapsing-remitting:** The most common form of MS. There are very clear attacks on the body (commonly called relapses or flare-ups), followed by periods with no symptoms, or remission.
- 2. Primary-progressive:** No significant flare-ups or relapses. Instead, the symptoms of MS slowly continue to get worse over time.
- 3. Secondary-progressive:** Most patients who are diagnosed with Relapsing-Remitting MS will go on to develop this form of MS. In this phase, there are fewer significant relapses but a slower buildup of symptoms over time.

### Symptoms

MS symptoms may also be referred to as an attack, flare-up, or relapse. Relapses are a period when MS symptoms may become worse, the disease hurts more than normal,

or you experience new side effects of the condition.

Symptoms can change over time and are typically unique for each person with MS.

To better understand your symptoms, it's important to discuss any changes or new symptoms with your care provider. **See the table below for more details:**

### Most Common Symptoms

- Extreme tiredness
- Tingling in parts of the body
- Weakness
- Blurred vision
- Shaking, trembling
- Muscle spasms
- Pain
- Dizziness
- Problems with bowel or bladder control

### Severe Symptoms

- Depression
- Problems with chewing and swallowing
- Trouble processing information, challenges with problem solving and decreased brain function
- Breathing trouble
- Hearing loss
- Speech problems
- Challenges with walking
- Challenges with balance

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## How Nutrition is Affected by Multiple Sclerosis

To better understand Multiple Sclerosis, your symptoms, and how nutrition is affected, **see the table below for more details.**

Understanding Symptoms and How Nutrition is Affected by Multiple Sclerosis	
General Overview	How Nutrition is Affected
<ul style="list-style-type: none"> <li>MS is an inflammatory autoimmune disease that affects the cells of the central nervous system (CNS), which is made up of the brain, spinal cord and optic nerve.</li> <li>Neurons, or nerve cells, help to build the body's nervous system. The nervous system controls how messages are sent within the brain and through the rest of the body.</li> <li>MS is caused by the immune system mistakenly attacking and damaging the protective coating (myelin sheath) surrounding the nerve cells in the brain and spine. The nerve fibers can also be damaged. Due to this damage, messages from the brain have trouble being sent through the body.</li> <li>There are three different types of MS: Relapsing-Remitting (most common), Secondary-Progressive, and Primary-Progressive.</li> <li>MS can cause a variety of symptoms. See our "Symptoms" section for more details.</li> <li>Depending on the type of MS, symptoms may come and go in periods of "flares" and "remission".</li> </ul>	<ul style="list-style-type: none"> <li>Fatigue is very common for those with MS. This can lead to a lack of appetite and a low level of interest in food preparation. Over time, these behaviors may lead to malnutrition, as well as a reliance on unhealthy fast foods or convenience foods.</li> <li>Emotional changes are common for those with MS. These changes may make individuals eat more or less than they would normally. Eating too much could result in weight gain. Eating too little could result in nutrient deficiencies and unintended weight loss.</li> <li>A variety of factors, including moving less, depression, fatigue, and certain medications can cause weight gain for those with MS. Extra weight may worsen some MS symptoms, including fatigue. Extra weight can also put more stress on respiratory and cardiovascular systems.</li> <li>Lack of physical activity due to fatigue, depression, or mobility issues can increase the risk of developing weak and brittle bones. To help keep bones healthy, it's important to eat calcium-rich foods daily. Calcium supplements may also be helpful.</li> <li>Research has shown that vitamin D may play a vital role in lowering the risk of developing MS. Low levels of vitamin D may also play a role in disease progression. Talk with your physician or pharmacist about your vitamin D needs.</li> <li>Not being able to control one's bladder may cause those with MS to limit their fluid intake. Even mild dehydration can cause "brain fog", constipation, dry mouth, and an increased risk for bladder infections. It's important to stay hydrated!</li> <li>Damage to nerves controlling the gut, dehydration, and lack of movement can all cause constipation for those with MS.</li> <li>Nerve damage can cause issues with chewing and swallowing. Fear of choking may cause some to reduce their fluid and/or food intake leading to dehydration and malnutrition.</li> </ul>

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## How Multiple Sclerosis Affects the Body

To better understand how this disease affects the body, **see below for more details.**

- 1. Brain:** MS causes changes in the brain that can result in difficulty thinking, confusion and forgetfulness. Emotions can also be affected. Many people with MS may suffer from depression as well as other emotional changes.
- 2. Eyes:** For many, one of the first symptoms of MS is eye problems. These problems may include blurred or double vision, eye pain, and the inability to distinguish an object from its background.
- 3. Difficulty Swallowing:** Damage to nerves controlling muscles in the mouth and throat may cause swallowing issues. This can lead to other problems, like coughing, choking and food/saliva [aspiration](#).
- 4. Muscles:** Widespread nerve damage in muscles may lead to muscle weakness, the inability to walk, lack of coordination, and muscle spasticity.
- 5. Lungs:** Nerve damage to chest muscles may cause breathing difficulties, resulting in pain, fatigue and inflammation.
- 6. Heart:** Women with MS are at a higher risk of developing cardiovascular problems, such as heart disease.
- 7. Bladder/Bowel:** Due to nerve damage, many people with MS may have weak bladder and bowel control. Constipation may be a problem as well.
- 8. Sexual Dysfunction:** The ability to become aroused may be more difficult for those with MS due to contributing MS symptoms. These include depression, fatigue and muscle spasticity.
- 9. Nerves:** Nerve damage, caused by harm to the myelin sheath and nerve fibers, make it more difficult for messages to be sent around the body. This can cause many problems, including lack of coordination, balance issues, numbness, and tingling.
- 10. Bones:** Inactivity, certain medications, or a poor diet may eventually lead to osteoporosis, a condition where bones become weak and brittle.

