

Lifestyle for Multiple Sclerosis (MS)

Diet, exercise, and other factors

Read this handout to learn how healthy eating, exercise, sleep, and stress management help to protect from cardiovascular disease and maximize long-term health for those with MS.

How do diet and gut health affect MS?

Diet may affect how MS develops. Those with MS often experience changes in their *gut microbiome* (the blend of microorganisms that live in the gut). What we eat affects both the bacteria in our gut and the white blood cells around our intestines. These white blood cells travel in our body and affect inflammation.

Some foods can cause *intestinal permeability*, also known as “leaky gut.” This means the gut lining may let in partially-digested food and toxins, leading to *gut inflammation* (red, swollen, and painful gut). Ingredients such as salt, sugar, and *emulsifiers* (chemicals added to stabilize food) increase the risk of gut inflammation and leaky gut. Emulsifiers are usually found in processed foods and include maltodextrin, polysorbate 80, titanium dioxide, aluminum silicates, and carrageenan.

Eating different types of *soluble fiber* can improve gut health. Soluble fiber is found in whole grains, legumes, fruits, vegetables, nuts, and seeds. Gut bacteria break down soluble fiber into *short-chain fatty acids*. These fatty acids help reduce inflammation, reduce MS relapses, and protect brain volume.

In children and teens with MS, a 2018 study by Azary et al. found that each additional cup of vegetables per day may reduce relapse risk by 50%. The study also found that each 10% increase in *saturated fat* may increase relapse risk by up to 237%. Most saturated fat in the diet comes from meat and dairy products.

Recommendations for a healthy diet:

- Avoid processed foods such as microwave meals, chips, cookies, and other packaged snacks.
- Avoid restaurant foods, which are usually high in salt and sugar.
- Make fruits and vegetables an important part of your diet.
- Eat unprocessed grains such as steel-cut oatmeal, millet, barley, quinoa, and brown or purple rice.
- Eat legumes such as beans, peas, and lentils.
- Limit saturated fat, which comes from sources such as butter, ice cream, cheese, and meat.



The Nutrition Facts label on packaged foods shows the saturated fat and fiber content in the product.

Farez et al. 2014

| Salt Intake | Risk of New Lesion in 2 Years |
|--------------|-------------------------------|
| <2 g /day | 1x |
| 2-4.7 g /day | 2.8 x |
| > 4.8 g/ day | 3.4 x |

Limiting salt intake may help reduce risk of new lesions.

Importance of a Healthy Weight

Maintaining a healthy body weight reduces inflammation in the body. This is because fat cells produce hormones and other substances that can cause inflammation. A body mass index (BMI) of 30 or more doubles the risk of having MS. High BMI may be linked with faster nerve damage, vision loss, and MS progression.

Importance of Physical Activity

People with MS who exercise and stay physically active live longer and healthier, with fewer other health conditions.

A 2015 study by Turner et al. on veterans with MS showed that exercising 1 to 2 times a week is associated with a 36% lower risk of death. Exercising 3 times a week is associated with a 47% lower risk of death.

Exercise also helps improve walking, balance, cognition, fatigue, depression, and quality of life with MS.

Tobacco and MS

People with MS who use tobacco experience more disability, more MS relapses, and larger MS lesions. Smoking tobacco can also lead to *brain atrophy*, which is the loss of nerve cells in the brain. Quitting smoking is an important part of promoting nerve health.

Sleep Disorders in MS

Sleep disorders such as sleep apnea and restless legs are common in people with MS. Symptoms such as pain, muscle stiffness, and needing to get up to use the bathroom can also prevent restful sleep. Disrupted sleep can worsen fatigue, anxiety, depression, and cognition. Talk with your care team about any sleep difficulties you may be having. Many symptoms, such as fatigue and cognition, may improve when sleep improves.

Stress

Stress and fatigue may make MS symptoms worse. In a 2012 study by Mohr et al., stress management therapy was linked to reduced MS relapses. Counseling and stress management can help promote wellness while living with MS.

To Learn More

The National MS Society

www.nationalmssociety.org/Living-Well-With-MS/Diet-Exercise-Healthy-Behaviors/Exercise

The Sports Institute

<https://thesportsinstitute.com/exercise-rx/>



Exercising and staying active can slow the progression of MS and improve your overall health.

Questions?

Your questions are important. Call your doctor or healthcare provider if you have questions or concerns.

UW Medicine Multiple Sclerosis Center: Call 206.598.3344 weekdays from 8 a.m. to 5 p.m.

After hours, on weekends, and on holidays, call this same number. You will be directed to the after-hours nurse line.