



## Demyelinating disease: What causes it?

### What are the types of demyelinating disease that affect the central nervous system and what can you do about them?

Answers from [Jerry W. Swanson, M.D.](#)

A demyelinating disease is any condition that results in damage to the protective covering (myelin sheath) that surrounds nerve fibers in your brain and spinal cord. When the myelin sheath is damaged, nerve impulses slow or even stop, causing neurological problems.

#### Multiple sclerosis

Multiple sclerosis (MS) is the most common demyelinating disease of the central nervous system. In this disorder, your immune system attacks the myelin sheath or the cells that produce and maintain it.

This causes inflammation and injury to the sheath and ultimately to the nerve fibers that it surrounds and may result in multiple areas of scarring (sclerosis).

#### Other causes

Other types of demyelinating disease and their causes include:

- Optic neuritis — inflammation of the optic nerve in one or both eyes
- Neuromyelitis optica (Devic's disease) — inflammation and demyelination of the central nervous system, especially of the optic nerve and spinal cord
- Transverse myelitis — inflammation of the spinal cord
- Acute disseminated encephalomyelitis — inflammation of the brain and spinal cord
- Adrenoleukodystrophy and adrenomyeloneuropathy — rare, inherited metabolic disorders

MS and other demyelinating diseases most commonly result in vision loss, muscle weakness, muscle stiffness and spasms, loss of coordination, loss of sensation, pain, and changes in bladder and bowel function.

#### Treatment

No cures exist for demyelinating diseases and their progression, and symptoms are different for everyone. Getting treatment early is important. Treatment focuses on:

- Minimizing the effects of the attacks
- Modifying the course of the disease
- Managing the symptoms

A variety of drug therapies are recommended depending on your specific disorder. These may include medications that decrease the frequency of new lesion formation.

Strategies to treat symptoms include physical therapy, muscle relaxing drugs, and medications to reduce pain and fatigue. Talk with your doctor about the best course of treatment for your specific disorder.

With

**Jerry W. Swanson, M.D.**

## References

1. Overview of demyelinating disorders. The Merck Manuals: The Merck Manual for Health Care Professionals. [http://www.merckmanuals.com/professional/neurologic\\_disorders/demyelinating\\_disorders/overview\\_of\\_demyelinating\\_disorders.html](http://www.merckmanuals.com/professional/neurologic_disorders/demyelinating_disorders/overview_of_demyelinating_disorders.html). Accessed Feb. 26, 2014.
2. Adams JG. Emergency Medicine. 2nd ed. Philadelphia, Pa.: Saunders Elsevier; 2013. <http://www.clinicalkey.com>. Accessed Feb. 26, 2014.
3. Bunyan RF, et al. Acute demyelinating disorders: Emergencies and management. *Neurologic Clinics*. 2012;30:285.
4. Lotze TE. Differential diagnosis of acute central nervous system demyelination in children. <http://www.uptodate.com/home>. Accessed Feb. 26, 2014.
5. Wingerchuck DM (expert opinion). Mayo Clinic, Rochester, Minn. April 4, 2014.

June 03, 2014

Original article: <http://www.mayoclinic.org/diseases-conditions/multiple-sclerosis/expert-answers/demyelinating-disease/faq-20058521>

---

Any use of this site constitutes your agreement to the Terms and Conditions and Privacy Policy linked below.

[Terms and Conditions](#)

[Privacy Policy](#)

[Notice of Privacy Practices](#)

Mayo Clinic is a not-for-profit organization and proceeds from Web advertising help support our mission. Mayo Clinic does not endorse any of the third party products and services advertised.

[Advertising and sponsorship policy](#)

[Advertising and sponsorship opportunities](#)

A single copy of these materials may be reprinted for noncommercial personal use only. "Mayo," "Mayo Clinic," "MayoClinic.org," "Mayo Clinic Healthy Living," and the triple-shield Mayo Clinic logo are trademarks of Mayo Foundation for Medical Education and Research.

© 1998-2016 Mayo Foundation for Medical Education and Research. All rights reserved.