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## Neuromuscular Disorders

Neuromuscular disorders affect your neuromuscular system. They can cause problems with:

- The nerves that control your muscles
- Your muscles
- Communication between your nerves and muscles

These disorders can cause your muscles to become weak and waste away. You may also have symptoms such as spasms, twitching, and pain.

Examples of neuromuscular disorders include:

- Amyotrophic lateral sclerosis [<https://medlineplus.gov/amyotrophiclateralsclerosis.html>]
- Muscular dystrophy [<https://medlineplus.gov/musculardystrophy.html>]
- Myasthenia gravis [<https://medlineplus.gov/myastheniagravis.html>]
- Spinal muscular atrophy [<https://medlineplus.gov/spinalmuscularatrophy.html>]

There can be different causes for these diseases. Many of them are genetic. This means they are inherited (run in families) or are caused by a new mutation in your genes. Some neuromuscular disorders are autoimmune diseases [<https://medlineplus.gov/autoimmunediseases.html>]. Sometimes the cause is unknown.

Many neuromuscular diseases have no cure. But treatments may improve symptoms, increase mobility, and lengthen life.

## Start Here

- Find a Neuromuscular Disease [<https://www.mda.org/disease/list>] (Muscular Dystrophy Association)

## Diagnosis and Tests

- Electromyography (EMG) and Nerve Conduction Studies [<https://medlineplus.gov/lab-tests/electromyography-emg-and-nerve-conduction-studies/>]  (National Library of Medicine)  
Also in Spanish [<https://medlineplus.gov/spanish/pruebas-de-laboratorio/electromiografia-y-estudios-de-conduccion-nerviosa/>]

## Living With

- Exercising with a Muscle Disease [[https://www.mda.org/sites/default/files/MDA\\_Quest\\_Exercise\\_Package\\_2009.pdf](https://www.mda.org/sites/default/files/MDA_Quest_Exercise_Package_2009.pdf)] (Muscular Dystrophy Association) - **PDF**

## Related Issues

- Dressing with Ease, Style, and Comfort [<https://www.als.org/navigating-als/resources/fyi-dressing-ease-style-and-comfort>] (ALS Association)
- Preparing for Emergencies: A Checklist for People with Neuromuscular Diseases [[https://www.mda.org/sites/default/files/publications/Emergencies\\_Checklist\\_P-527.pdf](https://www.mda.org/sites/default/files/publications/Emergencies_Checklist_P-527.pdf)] (Muscular Dystrophy Association) - **PDF**

## Specifics

- Congenital Myasthenic Syndrome [<https://www.ninds.nih.gov/health-information/disorders/congenital-myasthenic-syndrome>]  (National Institute of Neurological Disorders and Stroke)
- Congenital Myopathy [<https://www.ninds.nih.gov/health-information/disorders/congenital-myopathy>]  (National Institute of Neurological Disorders and Stroke)
- Hereditary Spastic Paraparesis [<https://www.ninds.nih.gov/health-information/disorders/hereditary-spastic-paraparesis>]  (National Institute of Neurological Disorders and Stroke)
- Isaacs Syndrome [<https://rarediseases.info.nih.gov/diseases/6793/isaac-syndrome>]  (Genetic and Rare Diseases Information Center)
- Kearns-Sayre Syndrome [<https://rarediseases.info.nih.gov/diseases/6817/kearns-sayre-syndrome>]  (National Center for Advancing Translational Sciences)
- Lambert-Eaton Myasthenic Syndrome [<https://rarediseases.info.nih.gov/diseases/6851/lambert-eaton-myasthenic-syndrome>]  (Genetic and Rare Diseases Information Center)  
Also in Spanish [<https://www.ninds.nih.gov/es/health-information/disorders/trastornos-mitocondriales>]
- Mitochondrial Disorders [<https://www.ninds.nih.gov/health-information/disorders/mitochondrial-disorders>]  (National Institute of Neurological Disorders and Stroke)
- Monomelic Amyotrophy [<https://www.ninds.nih.gov/health-information/disorders/monomelic-amyoatrophy>]  (National Institute of Neurological Disorders and Stroke)
- Motor Neuron Diseases [<https://www.ninds.nih.gov/health-information/disorders/motor-neuron-diseases>]  (National Institute of Neurological Disorders and Stroke)
- Myotonia Congenita [<https://www.ninds.nih.gov/health-information/disorders/myotonia-congenita>]  (National Institute of Neurological Disorders and Stroke)
- Piriformis Syndrome [<https://rarediseases.info.nih.gov/diseases/10026/piriformis-syndrome>]  (Genetic and Rare Diseases Information Center)
- Stiff-Person Syndrome [<https://www.ninds.nih.gov/health-information/disorders/stiff-person-syndrome>]  (National Institute of Neurological Disorders and Stroke)  
Also in Spanish [<https://www.ninds.nih.gov/es/health-information/disorders/el-sindrome-de-la-persona-rígida>]
- Troyer Syndrome [<https://www.ninds.nih.gov/health-information/disorders/troyer-syndrome>]  (National Institute of Neurological Disorders and Stroke)
- What Is Mitochondrial Disease  
[[https://www.mda.org/sites/default/files/2020/03/MDA\\_Mitochondrial\\_Disease\\_Fact\\_Sheet\\_March\\_2020.pdf](https://www.mda.org/sites/default/files/2020/03/MDA_Mitochondrial_Disease_Fact_Sheet_March_2020.pdf)] (Muscular Dystrophy Association) - 

## Genetics

- Ataxia with vitamin E deficiency: MedlinePlus Genetics [<https://medlineplus.gov/genetics/condition/ataxia-with-vitamin-e-deficiency>]  (National Library of Medicine)
- Christianson syndrome: MedlinePlus Genetics [<https://medlineplus.gov/genetics/condition/christianson-syndrome>]  (National Library of Medicine)
- Congenital myasthenic syndrome: MedlinePlus Genetics [<https://medlineplus.gov/genetics/condition/congenital-myasthenic-syndrome>]  (National Library of Medicine)
- Distal hereditary motor neuropathy, type II: MedlinePlus Genetics [<https://medlineplus.gov/genetics/condition/distal-hereditary-motor-neuropathy-type-ii>]  (National Library of Medicine)
- Genetics and Neuromuscular Disease [<https://www.mda.org/sites/default/files/2021/07/Genetics-and-NMD.pdf>] (Muscular Dystrophy Association) - 
- Infantile-onset ascending hereditary spastic paraparesis: MedlinePlus Genetics [<https://medlineplus.gov/genetics/condition/infantile-onset-ascending-hereditary-spastic-paraparesis>]

- Mitochondrial encephalomyopathy, lactic acidosis, and stroke-like episodes: MedlinePlus Genetics [<https://medlineplus.gov/genetics/condition/mitochondrial-encephalomyopathy-lactic-acidosis-and-stroke-like-episodes/>]  (National Library of Medicine)
- Multiple pterygium syndrome: MedlinePlus Genetics [<https://medlineplus.gov/genetics/condition/multiple-pterygium-syndrome>]  (National Library of Medicine)
- Schwartz-Jampel syndrome: MedlinePlus Genetics [<https://medlineplus.gov/genetics/condition/schwartz-jampel-syndrome>]  (National Library of Medicine)
- Silver syndrome: MedlinePlus Genetics [<https://medlineplus.gov/genetics/condition/silver-syndrome>]  (National Library of Medicine)
- Spastic paraplegia type 11: MedlinePlus Genetics [<https://medlineplus.gov/genetics/condition/spastic-paraplegia-type-11>]  (National Library of Medicine)
- Spastic paraplegia type 15: MedlinePlus Genetics [<https://medlineplus.gov/genetics/condition/spastic-paraplegia-type-15>]  (National Library of Medicine)
- Spastic paraplegia type 2: MedlinePlus Genetics [<https://medlineplus.gov/genetics/condition/spastic-paraplegia-type-2>]  (National Library of Medicine)
- Spastic paraplegia type 31: MedlinePlus Genetics [<https://medlineplus.gov/genetics/condition/spastic-paraplegia-type-31>]  (National Library of Medicine)
- Spastic paraplegia type 49: MedlinePlus Genetics [<https://medlineplus.gov/genetics/condition/spastic-paraplegia-type-49>]  (National Library of Medicine)
- Spastic paraplegia type 4: MedlinePlus Genetics [<https://medlineplus.gov/genetics/condition/spastic-paraplegia-type-4>]  (National Library of Medicine)
- Spastic paraplegia type 5A: MedlinePlus Genetics [<https://medlineplus.gov/genetics/condition/spastic-paraplegia-type-5a>]  (National Library of Medicine)
- Spastic paraplegia type 7: MedlinePlus Genetics [<https://medlineplus.gov/genetics/condition/spastic-paraplegia-type-7>]  (National Library of Medicine)
- Spastic paraplegia type 8: MedlinePlus Genetics [<https://medlineplus.gov/genetics/condition/spastic-paraplegia-type-8>]  (National Library of Medicine)
- Troyer syndrome: MedlinePlus Genetics [<https://medlineplus.gov/genetics/condition/troyer-syndrome>]  (National Library of Medicine)

## Videos and Tutorials

- Nerve conduction [<https://medlineplus.gov/ency/anatomyvideos/000089.htm>]  (Medical Encyclopedia)  
Also in Spanish [<https://medlineplus.gov/spanish/ency/anatomyvideos/000089.htm>]

## Clinical Trials

- ClinicalTrials.gov: Muscle Spasticity [<https://clinicaltrials.gov/search?cond=%22Muscle+Spasticity%22&aggFilters=status:not%20rec>]  (National Institutes of Health)
- ClinicalTrials.gov: Neuromuscular Diseases [<https://clinicaltrials.gov/search?cond=%22Neuromuscular+Diseases%22&aggFilters=status:not%20rec>]  (National Institutes of Health)

## Journal Articles

References and abstracts from MEDLINE/PubMed (National Library of Medicine)

- Article: Family Caregivers of Individuals With Neuromuscular Disease Participating in a Randomized... [<https://www.ncbi.nlm.nih.gov/pubmed/40720845>]
- Article: How sagittal alignment changes can affect independent horizontal gaze after neuromuscular... [<https://www.ncbi.nlm.nih.gov/pubmed/40665415>]

- Article: A mechanistic basis of fast myofiber vulnerability to neuromuscular diseases.  
[<https://www.ncbi.nlm.nih.gov/pubmed/40632651>]
- Neuromuscular Disorders -- see more articles [<https://pubmed.ncbi.nlm.nih.gov/?term=%22Neuromuscular+Diseases%22%5Bmajr%3Aexp%5D+AND+humans%5Bmh%5D+AND+english%5Bla%5D+AND%22last+1+Year%22+%5Bdat%5D+NOT+%28letter%5Bpt%5D+OR+case+reports%5Bpt%5D+OR+editorial%5Bpt%5D+OR+comment%5Bpt%5D%29+AND+free+full+text%5Bsb%5D+>]

## Reference Desk

- Apraxia [<https://www.ninds.nih.gov/health-information/disorders/glossary-neurological-terms#apraxia>]  (National Institute of Neurological Disorders and Stroke)
- Hypertonia [<https://www.ninds.nih.gov/health-information/disorders/glossary-neurological-terms#hypertonia>]  (National Institute of Neurological Disorders and Stroke)
- Myotonia [<https://www.ninds.nih.gov/health-information/disorders/glossary-neurological-terms#myotonia>]  (National Institute of Neurological Disorders and Stroke)
- Spasticity [<https://www.ninds.nih.gov/health-information/disorders/glossary-neurological-terms#spasticity>]  (National Institute of Neurological Disorders and Stroke)

## Find an Expert

- National Institute of Neurological Disorders and Stroke [<https://www.ninds.nih.gov/>] 

## Women

- Pregnancy and Childbirth with Neuromuscular Disease [[https://www.mda.org/sites/default/files/publications/Quest17-3\\_Pregnancy\\_Series\\_revised\\_0.pdf](https://www.mda.org/sites/default/files/publications/Quest17-3_Pregnancy_Series_revised_0.pdf)] (Muscular Dystrophy Association) - **PDF**

## Patient Handouts

- Apraxia [<https://medlineplus.gov/ency/article/007472.htm>] (Medical Encyclopedia)  
Also in Spanish [<https://medlineplus.gov/spanish/ency/article/007472.htm>]
- Hand or foot spasms [<https://medlineplus.gov/ency/article/003194.htm>] (Medical Encyclopedia)  
Also in Spanish [<https://medlineplus.gov/spanish/ency/article/003194.htm>]
- Muscle atrophy [<https://medlineplus.gov/ency/article/003188.htm>] (Medical Encyclopedia)  
Also in Spanish [<https://medlineplus.gov/spanish/ency/article/003188.htm>]
- Muscle function loss [<https://medlineplus.gov/ency/article/003190.htm>] (Medical Encyclopedia)  
Also in Spanish [<https://medlineplus.gov/spanish/ency/article/003190.htm>]
- Muscle twitching [<https://medlineplus.gov/ency/article/003296.htm>] (Medical Encyclopedia)  
Also in Spanish [<https://medlineplus.gov/spanish/ency/article/003296.htm>]
- Myotonia congenita [<https://medlineplus.gov/ency/article/001424.htm>] (Medical Encyclopedia)  
Also in Spanish [<https://medlineplus.gov/spanish/ency/article/001424.htm>]
- Spasticity [<https://medlineplus.gov/ency/article/003297.htm>] (Medical Encyclopedia)  
Also in Spanish [<https://medlineplus.gov/spanish/ency/article/003297.htm>]



## MEDICAL ENCYCLOPEDIA

[Apraxia](https://medlineplus.gov/ency/article/007472.htm)

[Hand or foot spasms](https://medlineplus.gov/ency/article/003194.htm)

[Lambert-Eaton myasthenic syndrome](https://medlineplus.gov/ency/article/000710.htm)

[Muscle atrophy](https://medlineplus.gov/ency/article/003188.htm)

[Muscle function loss](https://medlineplus.gov/ency/article/003190.htm)

[Muscle twitching](https://medlineplus.gov/ency/article/003296.htm)

[Myotonia congenita](https://medlineplus.gov/ency/article/001424.htm)

[Nerve conduction](https://medlineplus.gov/ency/anatomyvideos/000089.htm)

[Spasticity](https://medlineplus.gov/ency/article/003297.htm)

## Related Health Topics

[Complex Regional Pain Syndrome](https://medlineplus.gov/complexregionalpainsyndrome.html)

[Movement Disorders](https://medlineplus.gov/movementdisorders.html)

[Multiple Sclerosis](https://medlineplus.gov/multiplesclerosis.html)

[Muscle Disorders](https://medlineplus.gov/muscledisorders.html)

[Muscular Dystrophy](https://medlineplus.gov/musculardystrophy.html)

[Myasthenia Gravis](https://medlineplus.gov/myastheniagravis.html)

[Neurologic Diseases](https://medlineplus.gov/neurologicdiseases.html)

[Peripheral Nerve Disorders](https://medlineplus.gov/peripheralnervedisorders.html)

[Spinal Muscular Atrophy](https://medlineplus.gov/spinalmuscularatrophy.html)

## National Institutes of Health

The primary NIH organization for research on *Neuromuscular Disorders* is the National Institute of Neurological Disorders and Stroke [<http://www.ninds.nih.gov/>]

## Other Languages

Find health information in languages other than English

[<https://medlineplus.gov/languages/neuromusculardisorders.html>] on *Neuromuscular Disorders*

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