ALS, MS and MD: How do they differ?

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The public often confuses Amyotrophic Lateral Sclerosis, Multiple Sclerosis, and Muscular Dystrophy. This is understandable, because some of the features and symptoms of these disorders overlap. In addition, people living with ALS, MS, and MD often require the same kinds of wheelchairs and assistive devices, which may contribute to the public perception of similarity. However, ALS, MS, and MD are separate and distinct disorders.

AMYOTROPHIC LATERAL SCLEROSIS (ALS)

ALS is a disease that causes motor neuron (nerve cell) death. The nerves that are affected are located in the spinal cord, and they control voluntary muscles. The symptoms tend to affect the arms, legs, mouth/tongue and breathing muscles.

The loss of nerve cells results in wasting (amyotrophy) of the muscles served by those cells. Sclerosis, or scarring, occurs in the lateral columns of the spine (lateral sclerosis).

The disorder is fatal, and it can progress very fast after diagnosis.

Approximately 3,000 Canadians live with ALS. Two to three Canadians die of ALS each day. Most ALS is sporadic, and less than 10% of cases are genetic.

The cause of ALS is still unknown, but current research is working on treatments and someday, a cure.

MULTIPLE SCLEROSIS (MS)

Multiple sclerosis is an autoimmune disease of the central nervous system, meaning it affects the brain, spinal cord and optic nerves. MS can range from mild to severe, and it can cause disability in those who are affected.

The disease attacks the protective covering, called myelin sheath, on neurons in the central nervous system. This causes inflammation and scarring, and impairs transmission between neurons. MS is unpredictable and may cause symptoms such as extreme fatigue, lack of coordination, weakness, tingling, impaired sensation, vision problems, bladder problems, cognitive impairment and mood changes.

Approximately 77,000 Canadians have multiple sclerosis. Canada is a high-risk area for MS, which occurs more often in countries that are further from the equator.

While MS is not a fatal disease, complications in the advanced stages of the disease occur more frequently. The majority of people can be expected to live a normal or near-normal lifespan, thanks to improvements in the treatment of symptoms and in other therapies. The cause of MS is not known, but researchers are working hard to find the answer.

MUSCULAR DYSTROPHY (MD)

Muscular dystrophy is the name of a group of disorders, which mainly affect the muscle. MD is inherited, or caused by genetic mutations. Each type of MD is characterized by a mutation in a different gene. The severity, age of onset and specific symptoms varies depending on the type of MD.

Generally muscles that control body movement as well as muscles involved in breathing and/or heart function are affected. This is due to progressive muscle tissue weakening and wasting away, which is then replaced by fatty and connective tissue. Muscular dystrophies are disorders of the peripheral nervous system, not the central nervous system.

Two-thirds of MD types show symptoms at birth or in childhood, and other muscular dystrophies such as oculopharyngeal muscular dystrophy have a later onset, typically in adulthood.

There are no curative treatments for muscular dystrophies but some subtypes do have treatments available that help manage symptoms. Current research is underway to further identify causes and developing treatments aimed at halting disease progression.

ALS, MS AND MD: QUESTIONS AND ANSWERS

	ALS	MS	MD
Is it fatal?	Yes	No	Yes, most types
How many types are there?	2 types: familial and sporadic	4 types	40+ types of muscle disorders grouped as MD
How fast does it progress?	Most people with ALS die within 2-5 years, some may live 10 or more years	Progresses at varying rates in each individual	Varies by type
What systems are affected?	Nervous system, & then muscles	Nervous system (CNS)	Mainly muscles
What does the disorder cause?	Motor neurons die, causing voluntary muscles to weaken and waste	The disease attacks the myelin sheath in the CNS, causing weakness, wasting, and problems with sensation	Progressive weakness & wasting of the muscles that control body movement, breathing and/or heart function
Is it genetic or acquired?	90%+ acquired, < 10% genetic	Acquired	Genetic
How many Canadians are affected?	3,000	77,000	Not available

ADDITIONAL RESOURCES

What is ALS?
About MS
What are NMDs?

KNOW THAT WE ARE HERE TO HELP I For people and families living with ALS in Ontario, ALS Canada can assist in connecting you to support services, equipment, and ALS clinics. Whether you are a person living with ALS, a family member or a caregiver, we will strive to support you along this journey. If you live outside of Ontario, please contact your provincial ALS Society for information on support available in your region. Learn more at www.als.ca.

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Special thanks to everyone who helped write and review this fact sheet.

* Last updated 10/2020