ALS SLA CANADA

FACT SHEET

ALS, MS, AND MD: HOW DO THEY DIFFER?

Amyotrophic lateral sclerosis, multiple sclerosis, and muscular dystrophy can sometimes be confused as the characteristics and symptoms of these diseases can overlap. People living with ALS, MS, and MD often require the same kinds of wheelchairs and assistive devices. However, ALS, MS, and MD are separate and distinct diseases.

Amyotrophic Lateral Sclerosis (ALS)

Our brain is connected to our muscles through millions of specialized nerve cells, called motor neurons, which serve as our bodies' internal wiring and enable us to move our bodies as we choose. Motor neurons work in pairs: an upper motor neuron in the brain extends to the brainstem at the back of the neck or the spinal cord, and a lower motor neuron extends from the brainstem or spinal cord to the muscle. The brain sends a signal along these motor neurons telling a muscle to contract. This signal is an electrical impulse created by chemicals in our neurons.

In ALS, motor neurons gradually break down and die. This means that the brain can no longer communicate with the muscles of the body. As a result, the muscles become weak and eventually someone living with ALS will be unable to move them. Over time, someone living with ALS will lose the ability to walk, talk, eat, swallow and eventually breathe.

At any point in time, there are approximately 3,000 Canadians living with ALS. Two to three Canadians die of ALS each day, and approximately 1,000 Canadians are diagnosed with the disease each year. Most cases (approximately 90 per cent) of ALS do not have a family history (termed "sporadic"), meaning that the disease is not genetically inherited from a parent. However, some cases without family history can still have a known genetic cause.

The underlying biology of ALS still isn't fully understood though significant advances have been made. There is currently no cure, but there are treatments to help manage the symptoms of the disease and potentially slow its progression to some extent.

Multiple Sclerosis (MS)

Multiple sclerosis is a chronic autoimmune disease of the central nervous system, meaning it affects the brain, spinal cord, and optic nerves. MS varies considerably from person to person, and in the severity and course of the disease. At the time of diagnosis, a neurologist is unable to predict how an individual may be affected long-term.

MS attacks myelin, the protective covering of the nerves, causing inflammation and often damaging the myelin. When this happens, the usual flow of nerve impulses along nerve fibres is disrupted. MS can cause symptoms such as fatigue, lack of coordination, weakness, tingling, impaired sensation, vision problems, bladder and bowel problems, cognitive impairment, and mood changes.

Canada has one of the highest rates of MS in the world, with an estimated 90,000 Canadians living with the disease. Most people are diagnosed between the ages of 20 and 49 and the unpredictable effects of the disease will last for the rest of their lives.

People with MS can expect to live 95 per cent of their normal life expectancy. There are a variety of treatment options for people living with MS that can manage the disease, from medications to wellness strategies such as physical activity and eating a balanced diet. The exact cause of MS is unknown, it is believed to be a combination of genetic and environmental factors.

Muscular Dystrophy (MD)

Muscular dystrophy (MD) is the name for a group of neuromuscular diseases where the primary effect is on the muscles. MDs are inherited or caused by genetic variations (mutations) responsible for healthy muscle structure and function. Each type of MD is characterized by a mutation in a different gene. The types of muscles affected, severity, age of onset and specific symptoms varies depending on the type of MD. Generally, persons living with MDs experience some level of muscle weakness.

This may affect their arms and legs, and in some MDs, the muscles needed for eating, speaking, breathing, heart, and eye function may be affected as well. Some MDs have a multisystem effect and might affect other parts of the body such as the endocrine system, cognitive function, and gastrointestinal system. Muscular dystrophies are diseases of the peripheral nervous system, not the central nervous system.

The majority of MD types show symptoms at birth or in childhood, and are progressive in nature, and other muscular dystrophies such as oculopharyngeal muscular dystrophy have a later onset, typically as in mid- late adulthood.

While there are no curative treatments for muscular dystrophies yet, there are supportive therapies and life-changing treatments available for a sub-set of MDs that are prolonging life expectancy, helping with management of symptoms and contributing to improved quality of life. Current research is underway to further identify causes and developing treatments aimed at halting disease progression.

KNOW THAT WE ARE HERE TO HELP

The ALS Society of Canada can assist in connecting people and families living with ALS in Ontario to support services, equipment, and ALS clinics. We also invest in the most promising Canadian ALS research, advocate federally and provincially for the needs of people affected by ALS, and provide information to empower Canadians affected by the disease. Learn more at www.als.ca where you can also find more resources in the “What is ALS?” section.

If you live outside of Ontario, please contact your provincial ALS Society for information on support available in your region.

References

https://www.als.ca/about-als/what-is-als/

https://mssociety.ca/about-ms

https://muscle.ca/discover-md/what-is-muscular-dystrophy/

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