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MS PROGRESS REPORT

Marley's Mission to Tackle MS

After his mom was diagnosed with multiple sclerosis (MS) when he was just five years old, Marley quickly learned how this disease would affect his family's life. Now 17, Marley is a high school student who excels in both academics and extracurricular activities. As the captain of his school's football team and a singer in the choir, Marley thrives on competition and creativity, but he also balances these passions with his role as a caregiver for his mom.

In their single-parent household, Marley takes on many responsibilities, including grocery shopping, cooking, and caring for his younger brother, Makaio, when his mom is not feeling well. Despite the challenges, the family remains positive. "We don't let MS affect us negatively because we have a positive outlook," Marley says. Their strong family bond and a supportive community help them navigate the ups and downs of living with MS.

Marley and his younger brother, Makaio

Marley's experience as a caregiver has motivated him to do more for his mom and others living with MS. He was inspired to create his own flag football tournament, which he called "Huskies Tackle MS," to bring high school teams together in his area to raise funds for MS Canada. Marley is hopeful that his event will encourage students in other provinces to host their own tournaments.

> "MS was once something I didn't understand ... but now I connect it with excitement, care and support."

In addition to the football tournament, Marley has organized bake sales, pizza sales, and a wing night fundraiser at a local restaurant. These events have not only raised funds for MS Canada but also fostered a sense of community and awareness. Marley's friends, teachers and family have generously volunteered their time to support the cause and help make these initiatives a success.

Through his efforts, Marley has shifted his view of MS as he shows others that getting involved in the community can be both fun and meaningful. "MS was once something I didn't understand," he shares, "but now I connect it with excitement, care and support."

Marley dreams of a world without MS. For him, a cure would allow his mom to take part in more activities, be more independent and enjoy life without the limitations of the disease. Through his dedication and the support of others, Marley hopes to inspire more people to join the fight to end MS.

A message from the President

This spring, we've witnessed groundbreaking research led by some of Canada's brightest minds. These innovative projects are driving progress, and our commitment to provide accessible, trusted support to Canadians affected by MS — all while working toward a cure — remains unwavering. Your generosity is what makes this mission possible, and for that, I am deeply grateful.

MS Canada is a proud leader in MS research, thanks to the dedication of people like you. Together, we will keep bringing hope and strength to those living with MS — and to their families — as we make a lasting impact on their lives.

In this issue of your ***MS Progress Report***, you'll learn how researchers like Dr. Michael C. Levin are pursuing research projects to uncover new information about the disease — bringing us closer to ending MS. As you read, I know you'll be encouraged by this progress. You'll also read about Marley, a driven high school student who balances school and sports with being a caregiver for his mother with MS.

We've made significant strides in the fight to end MS, but there's still more to do. Since Canada has one of the highest rates of MS in the world, it's essential that we continue to make progress for those facing the challenges of the disease. **Thanks to incredible partnerships like yours, our progress *won't* slow down.** Your generosity means the world, and we deeply appreciate your support.

Sincerely,

Pamela Valentine

Dr. Pamela Valentine
President and Chief
Executive Officer
MS Canada

A Lifetime of Progress

Incredible progress has been made to help end MS — and research breakthroughs continue to provide hope that, one day soon, a cure will be found. Here's a quick overview of the major milestones in the fight against this disease:

1868 Since the late 1300s, an illness suggestive of MS has been observed. The famous neurologist, Jean-Martin Charcot, **gives MS its name in 1868**.

1948 **MS Canada is established** after a group of volunteers in Montreal connect with the National MS Society in the United States.

1981 The first magnetic resonance imaging (MRI) pictures of an MS-affected brain **revolutionized diagnosis**.

1995 The first **disease-modifying therapy (DMT) for relapsing-remitting MS (RRMS)** is approved in Canada (Betaseron®; interferon beta-1b).

2001 McDonald Criteria for diagnosing MS is established — **the first diagnostic criteria to incorporate both clinical and imaging measures**.

2022 New research suggests **Epstein-Barr Virus (EBV) is a leading trigger for MS**, shedding light on underlying causes of the disease and paving the way for new prevention strategies.

Thank you for supporting MS Canada — and for helping us push for progress for all Canadians affected by MS.

SPOTLIGHT ON RESEARCH

Dr. Michael C. Levin

Dr. Michael C. Levin, MD, is the MS Clinical Research Chair and Professor at the University of Saskatchewan. The focus of his research is neurodegeneration — the death and damage of nerve cells and their branches. Understanding neurodegeneration is important because it's the reason why symptoms of those living with MS get worse overtime, also known as disease progression.

Along with a team of researchers, Dr. Levin has been working hard to find a link between a factor called 'RNA binding protein heterogeneous nuclear ribonuclear protein A1' ('A1' for short) and neurodegeneration in MS. The team discovered that A1 is abnormal in nerve cells of people with MS. Abnormal A1 causes nerve cell death, which contributes to neurodegeneration, and in turn permanent disability in people with MS.

Dr. Levin and team will identify small molecule treatments that can target and normalize A1 function to reduce neurodegeneration and decrease disease severity in animal models of MS. This work has the potential to develop new treatments for use in pilot clinical trials to prevent disease progression and improve the lives of those diagnosed with MS.

Further understanding of the factors and mechanisms that drive neurodegeneration will support the development of future therapies to halt disease progression and permanent disability in MS.

Dr. Levin's work has the power to transform countless lives and bring us closer to making MS a thing of the past. Thank you for helping drive progress by making a gift to fund research like this.

To learn more, visit **mscanada.ca/drlevin**

> “My goal is to design novel medications that reduce neurodegeneration, delay disease progression and stop MS in its tracks!” –Dr. Levin

Detecting MS Years Before Symptoms Appear — Is It Possible?

Antibodies are produced by the immune system to protect against invading bacteria or viruses — but in MS, antibodies mistakenly attack the body's own tissues (autoantibodies). Identifying autoantibodies or other biomarkers specific to diseases like MS can help with early detection, diagnosis and disease management.

An international study found a unique set of autoantibodies in a subset of people who went on to develop MS. In this subset of people, these autoantibodies were detected in the blood years before MS symptoms and after MS onset. These results were validated in separate samples taken from a different group of people with MS and were able to accurately predict MS onset.

This work could lead to the development of new tools that could be used to identify people at high-risk of MS and allow for timely intervention, with the potential to improve the disease course.

More research is needed to understand why only a small subset of those with MS had this unique set of autoantibodies and to further confirm these biomarkers before they are routinely used in clinical care.

To learn more, visit **mscanada.ca/earlydetection**

Radiologically Isolated Syndrome and Early MS Treatment

Radiologically isolated syndrome (RIS) is the earliest detectable phase of MS. People with RIS have lesions in their central nervous system suggestive of MS that can be seen by magnetic resonance imaging (MRI). However, they lack any clinical symptoms of MS. People with RIS are at-risk of future myelin damage and MS diagnosis.

There are now two clinical trials [ARISE and TERIS] that provide evidence for the benefits of early treatment in preventing or delaying symptomatic MS. There is a growing body of evidence suggesting earlier treatment is beneficial in delaying longer-term disability accumulation and in improving health outcomes, and this may extend to those with RIS. Further research is needed to better identify those with RIS or in an early phase of MS who would most benefit from early treatment.

Take action and create impact at MS Walk on Sunday May 25, 2025

Join us this May as our community made up of tens of thousands of Canadians walks together to show that no person living with MS is alone. Fundraise to make lives better for people living with MS. Register for MS Walk today as we walk toward living in a world free of MS!

Visit **mswalks.ca** to find your walk and register today!

MSWALK

Add a legacy donation to your will, and support Canadians affected by MS

With a legacy donation added to your will, you are contributing to our vision of a world free of MS in a way that is personal and meaningful to you and that will impact future research for new treatments and therapies.

For more information about legacy giving, contact us at mslegacy@mscanada.ca or 1-800-268-7582.

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