

MS[®] PROGRESS Report

Major \$3.2 Million Pediatric MS Study Aims for Far-Reaching Impact

The Multiple Sclerosis Scientific Research Foundation (MSSRF) has awarded a \$3.2 million Collaborative Grant to fund a major study of demyelinating diseases, including MS, in children and adolescents.

This new grant builds on an established pediatric MS network, also funded through a MSSRF grant, and will add to previously acquired knowledge about the features of MS in children, risk factors that help to predict high-risk patients, and potential treatment options.

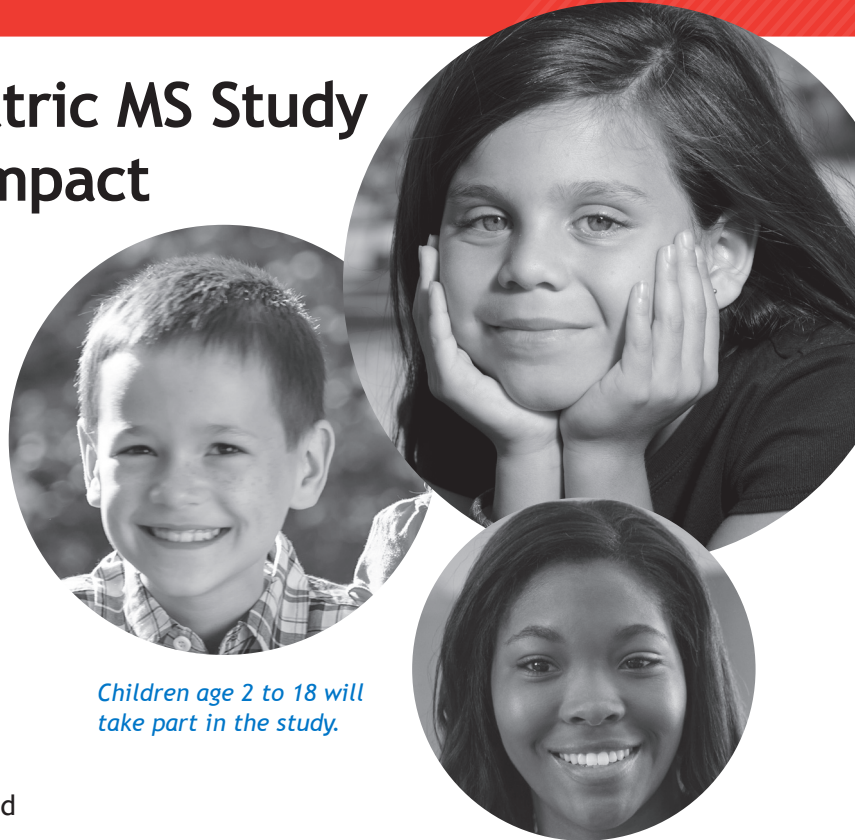
By studying the progression and long-term aspects of MS in children and adolescents, we seek to understand its effects on physical, emotional, social and cognitive development. With nearly 2-5% of all cases diagnosed in individuals under the age of 18, there is an unmet need to better understand, treat, and ultimately prevent the progressive decline in the quality of life and function of children and adolescents living with MS.

In addition, the study could have impact that reaches far beyond the treatment of children and adolescents. Understanding how a disease begins is a key step in learning how best to treat and ultimately prevent the progressive decline in the quality of life in Canadians of any age living with MS.



Dr. Brenda L. Banwell, an expert in pediatric MS, will lead this innovative study

Dr. Brenda Banwell, lead investigator of the Canadian Pediatric Demyelinating Disease Program at the Hospital for Sick Children and Chief of Neurology at the Children's Hospital of Philadelphia, will be heading this unique collaborative study involving 20 pediatric health



Children age 2 to 18 will take part in the study.

care centres in Canada.

The network, which reaches across Canada, is among the most comprehensive pediatric MS programs in the world, and is poised to make significant contributions to our understanding of the disease mechanisms and progressive burden that underlie pediatric-onset MS.

Aims of the new grant include:

- Assessing the burden of depression, anxiety and decreased physical activity on quality of life and cognitive function in pediatric MS and measuring parental health services utilization;
- Defining the extent and progressive burden of pediatric MS using MRI measures;
- Investigating and defining the development of peripheral immune abnormalities of children with MS.

Funding studies of this caliber across the academic and clinical spectrum remains a priority for the Multiple Sclerosis Society of Canada. Because of our donors' generosity, we are able to support a range of grants and awards to individuals and research teams investigating highly promising approaches to understanding, treating and ultimately defeating MS.



A Message from the President

Yves Savoie

As you may know, Canada has the highest rate of multiple sclerosis in the world – but we rise to the challenge as one. Through generous contributions, the Multiple Sclerosis Society of Canada is leading the charge to advance research that is producing significant results.

In this issue of MS Progress Report, you'll read about our support of several studies that are pushing the boundaries of current knowledge and laying the foundation for important breakthroughs.

We've awarded a major grant to researchers leading an exciting new study in pediatric MS that may reveal clues to what drives the progression of MS. Other awards support a broad range of studies, and in this issue, we feature three that will examine progressive MS, which remains a perplexing form of this debilitating disease.

Driven to respond to the needs of the 100,000 Canadians living with MS, we aspire to improve the quality of life for all those affected by offering information and vital resources. At the same time, the leading researchers we support are relentlessly pursuing more effective treatments and, of course, the path to a cure.

I am deeply grateful for your support of our programs and initiatives, and I am confident that, together, we will reach the critical milestones that will mark the end of multiple sclerosis.

Warm regards,

Yves Savoie
President and Chief Executive Officer
Multiple Sclerosis Society of Canada

MS Society Awards New Operating Grants, Fellowships, and Studentships

We're proud to announce that, in our 2015-2016 Annual Research Competition, donor support helped the MS Society to fund 14 Operating Grants, 19 Postdoctoral Fellowships, 33 Doctoral Studentships, and 5 Master's Studentships.

Several effective therapies for relapsing-remitting MS have been developed in recent years, and understanding and halting the progression of MS continues to be an area of intensive study. Three studies among those funded focus on the progression of MS.

Dr. Christopher Power of the University of Alberta is leading a team investigating fundamental mechanisms of inflammation that are unique to progressive MS, and methods for controlling this inflammation using existing therapeutics. Based on encouraging earlier studies, Dr. Valerie Verge of the University of Saskatchewan will study two new therapeutic approaches to stimulate repair of damaged tissue in the nervous system, which could slow down the accumulation of disability often associated with progressive MS. Finally, a study led by the University of

British Columbia's Dr. Cornelia Laule will use sophisticated imaging techniques to detect abnormal tissue patterns in the brain. The team hypothesizes that such patterns may confirm an MS diagnosis as well as predict the risk for transition to progressive MS early on.

Learn more about the 2015 - 2016 grants and awards at mssociety.ca/research

14
Operating
Grants

19
Postdoctoral
Fellowships

33
Doctoral
Studentships

5
Masters
Studentships

Research UPDATE

The Multiple Sclerosis Society of Canada supports a broad range of research initiatives nationwide and globally. Considering that Canada has the highest rate of MS in the world, we are vigorously leading the way in finding a cure and enabling people affected by MS to enhance their quality of life. Here are some examples of our role in research.

2015 MS Research Town Hall Achieves Record Breaking Attendance

Hosted by Bob McDonald, host of CBC's Quirks and Quarks, the 2015 Multiple Sclerosis Research Town Hall featured prominent MS researchers including Dr. Mark Freedman, who specializes in clinical trials and stem cell research; Dr. Helen Genova, who researches cognitive functioning and impact of MS on social interactions; and Dr. Ruth Ann Marrie, an expert in population health and the treatment of co-existing conditions. These leading researchers in the fight to end MS discussed current research, and offered insights on future progress to a nationwide audience of over 500 people.

Listen to a recording of the Town Hall now at mssociety.ca/research-news/research-events

International Progressive MS Alliance reviews applications for Collaborative Network Award

Founded in 2012 with the goal of speeding the development of treatments for progressive MS, the International Progressive MS Alliance – of which the MS Society of Canada is a founding member – is reviewing applications for its Collaborative Network Awards. The goal of these \$50,000 planning grants is significant: to fund groundbreaking research that leads directly to clinical breakthroughs and tangible improvements for people living with progressive MS.

Ongoing collaboration targets progressive MS

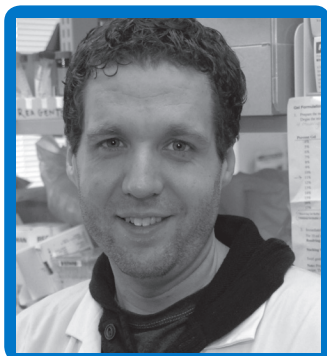
Continuing our collaboration with the Centre for Drug Research and Development (CDRD) to accelerate the development of therapies for multiple sclerosis, we have issued a call for proposals for innovative projects focused on progressive MS. The first funded study is under way under the leadership of Dr. Craig Moore from Memorial University, Newfoundland. Working closely with the drug development expert team at CDRD, Dr. Moore will examine how brain inflammation leads to subsequent tissue injury and repair, and will ultimately identify new therapeutic targets specific to progressive MS.

endMS campaign brings advocates, community together

Today 100,000 Canadians are living with MS, and while effective treatments have been developed in the last two decades, we continue to search for ways to prevent, treat and cure this debilitating disease. The MS Society of Canada has pledged to work with the research community, supporters and other stakeholders to end MS. Join the fight. We can win this challenge, but only if we face it together. For more information, please visit endms.ca.

endMS.ca

Significant new study shows promise in thwarting progressive MS



*Lead investigator
Dr. Jeffery Haines
specializes in
neurodegeneration
and autoimmunity*

Stopping the steady decline and restoring function in people living with progressive multiple sclerosis “is the major challenge facing MS therapeutics,” according to MS Society Postdoctoral Fellowship recipient Dr. Jeffery Haines. His exciting new study examining a class of drugs which may protect against nerve damage and stop MS progression was recently published by Nature Neuroscience, and has been met with great interest.

In the progressive stage of the disease, extensive damage occurs to nerve fibres found underneath the myelin sheath – the protective material which insulates them. Researchers believe that this damage results in permanent disability often seen in progressive MS.

Dr. Haines’ fellowship, funded in part by the Fonds de Recherche du Québec-Santé, has enabled him to further his research in, and remain committed to, the MS field. In his latest study, the drug that Dr. Haines and his colleagues are testing targets a protein called CRM1 (chromosome region maintenance protein 1), which behaves unusually in people with MS. CRM1 builds up in nerve cells in the MS brain, forcing important proteins to inappropriately accumulate and cause nerve damage.

Dr. Haines and his team theorized that blocking CRM1 in mice with an MS-like disease could both stop and prevent nerve damage and allow for the repair of myelin. That is precisely what happened.

“We found we have a potential new drug that can be taken orally and that can stop nerve cell damage and potentially have a big impact in stopping disease progression and promoting functional recovery in patients where motor and cognitive functions have been lost. That’s quite a significant finding,” Dr. Haines said.

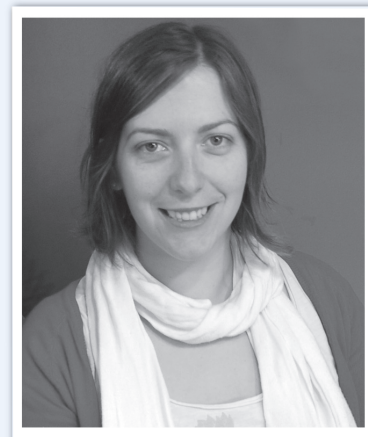
“The drug is currently being tested in cancer patients, and it’s known to be safe and effective. This means that the drug can possibly be repurposed for MS, with a clinical trial starting in one to two years.”

Finding effective treatments for people with progressive MS has been difficult because it’s a very complex disease. “It’s not for lack of trying,” Dr. Haines said, “but we are still determining what causes disease progression, and why people experience different symptoms, so a number of treatment options will have to be developed.” “It’s important that people living with MS remain hopeful,” said Dr. Haines, adding, “we’re working hard to end this disease, and we’re on the forefront of many amazing discoveries.”

“We have this drug ... that can both stop nerve cell damage and potentially allow for functional recovery.”

Your monthly gift helps make steady progress

When you make a monthly gift, you help improve the quality of life for people living with multiple sclerosis today and support research seeking to find a cure for the next generation – or sooner. Giving is quick, easy and rewarding, and you will change lives for the better. Please visit mssociety.ca/monthlygiving to learn more.



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