



National Multiple Sclerosis Society
733 Third Avenue
New York, New York 10017-3288
Tel +1 212.986.3240
Fax +1 212.986.7981
E-mail nat@nmss.org
Nationalmssociety.org

RESEARCH/CLINICAL UPDATE

December 14, 2012

2012: Sweeping Advances Made in MS Research

MS research continued to advance on many fronts in 2012. This year saw:

- The approval of a second oral therapy for relapsing forms of MS and other emerging treatments progressing through the development pipeline;
- The launch of the International Progressive MS Collaborative, the largest effort to date to speed research to stop progressive forms of MS;
- The discovery of what could be a target of the immune attack in people with MS may lead to new understanding of the disease and new treatment strategies;
- The completion of the first human trial of an experimental therapy targeting myelin repair;
- Progress in restoring functions using innovative rehabilitation techniques, including memory enhancement using a technique involving stories and imagery to solidify learning, and improving balance and mobility with specific exercises; and
- Advances in uncovering MS triggering factors, bringing us closer to finding ways to prevent the disease; and many other advances pushing us closer to a world free of MS.

The National MS Society continues to propel research forward with a comprehensive strategy aimed at stopping MS, restoring function and ending MS forever

(<http://www.nationalmssociety.org/research/index.aspx>):

- This year we invested \$44 million in over 350 new and ongoing projects;
- Projects include everything from discovery research to the Society's drug development efforts through Fast Forward[®] (www.fastforward.org).
- Read about recently launched research projects.
(<http://www.nationalmssociety.org/research/about-our-research-programs/download.aspx?id=44468>)

In the world's largest meeting dedicated to MS research, over 7,000 scientists convened in Lyon, France to present findings at ECTRIMS (European Committee for Treatment and Research in MS). Over 1250 studies covering virtually every aspect of research were presented:

- Read a summary <http://www.nationalmssociety.org/news/news-detail/index.aspx?nid=7052> and blogs <http://blog.nationalmssociety.org/search/label/ECTRIMS>
- View videos on specific ECTRIMS topics <http://www.youtube.com/playlist?list=PLnPWMdCPZiBbT4OEEunsWbzFTkWNoguQD&feature=addto>

PROGRESS TOWARD RESTORING WHAT'S BEEN LOST

The Society supported new and ongoing initiatives to propel efforts to restore function to people with MS through its Discovery and Fast Forward research programs, including:

- New studies into the potential of adult skin cells and umbilical cord cells as a source of nervous system repair cells;
- A new pilot research program to tap MS-specific funds from the Illinois Lottery, with a focus on nervous system repair and novel rehabilitation approaches;
- Cutting-edge research to discover new targets to stimulate myelin repair and early testing of new approaches to treating MS symptoms;
- Clinical trials testing the ability of cannabis to treat spasticity, aspirin to fight fatigue, and innovative rehabilitation and exercise programs aimed at improving mobility, fatigue, spasticity and cognitive problems;
- A study using advanced MRI analysis to determine how the brain regions associated with pain are affected by MS.

Other important 2012 results toward restoring function include:

NERVOUS SYSTEM PROTECTION AND REPAIR

First trial of experimental anti-LINGO to stimulate myelin repair – This first human phase I trial of BIIB033 (Biogen Idec), an immune antibody that inhibits LINGO-1, involved 64 healthy adult volunteers and 42 people with relapsing or secondary-progressive MS. There were no serious adverse events; headache was the most frequently adverse event reported. The authors concluded that the results support advancing this myelin repair strategy into a phase II clinical trial. Reported at the American Academy of Neurology annual meeting <http://www.nationalmssociety.org/news/news-detail/index.aspx?nid=6377>

Trial of patients' own adult stem cells appear safe and hints of benefit – Researchers in the UK published results of a small clinical trial involving 10 people with secondary-progressive MS, reporting that injecting a person's own bone marrow stem cells appeared safe and possibly beneficial in helping to protect the nervous system from injury. Further trials are

now underway to establish its safety and potential benefit.

<http://www.nationalmssociety.org/news/news-detail/index.aspx?nid=5951>

Collaboration to find new therapies to repair the nervous system in people with MS – Fast Forward is funding research at the Universities of Cambridge and Edinburgh, UK to screen for compounds that can stimulate myelin repair in MS. The project grew out of findings from a Nervous System Repair and Protection Initiative funded through the Society's Promise 2010 campaign. <http://www.nationalmssociety.org/news/news-detail/index.aspx?nid=6767>

REHABILITATION AND MANAGING SYMPTOMS

Study suggests balance/eye movement training improves MS symptoms – University of Colorado researchers found that a 6-week balance and eye movement-focused exercise program improved balance, reduced fatigue, and reduced disability due to dizziness or disequilibrium, lasting for at least 4 weeks. A larger and longer study is now getting underway with National MS Society support. <http://nationalmssociety.org/news/news-detail/index.aspx?nid=6119>

Rehabilitation technique improves memory – Learning and memory improved in people with MS with a technique that uses stories and imagery to cement learning. This was accompanied by increased activation of areas in the brain related to memory and learning. The Kessler Foundation Research Center investigation was funded in part by the Society's Mentor-Based Postdoctoral Fellowship program in rehabilitation research.

<http://www.nationalmssociety.org/news/news-detail/index.aspx?nid=5962>

Hotter days may make mental tasks harder – This Society-co-funded study, which needs further exploration, may help people plan activities and may improve the design of future clinical trials. The study was done by Victoria Leavitt, PhD, and colleagues through a Mentor-based rehabilitation postdoctoral fellowship award to John DeLuca, PhD at the Kessler Foundation Research Center in West Orange, NJ. <http://nationalmssociety.org/news/news-detail/index.aspx?nid=6208>

Weight training improves walking and quality of life in small study of women with MS – The University of Arizona/University of Georgia study, funded by the National MS Society, used standard measures to evaluate the effects of the progressive resistance program, along with in-depth interviews to determine effects on quality of life.

<http://www.nationalmssociety.org/news/news-detail/index.aspx?nid=7027>

Fast Forward and Concert Pharmaceuticals collaborate on MS spasticity and pain – the new collaboration funds the preclinical advancement of C-21191, a substance with the potential for treating spasticity and pain in MS. Fast Forward is committing up to \$750,000 to help its advancement toward clinical trials. <http://www.nationalmssociety.org/news/news-detail/index.aspx?nid=6034>

Small study reports benefit of marijuana on MS spasticity – California investigators found some benefit of smoked marijuana against spasticity and pain in people with MS in a small clinical trial. Participants also experienced reduced thinking ability after smoking marijuana, highlighting the need for research on cannabis products or other treatments that can more selectively reduce painful symptoms without producing adverse effects on cognitive function. Additional research is being supported by the Society and others.

<http://nationalmssociety.org/news/news-detail/index.aspx?nid=6374>

Study suggests Latinos with MS experience worse pain and other symptoms – A National MS Society-supported study at the Mississippi State University found that a sample of Hispanics/Latinos with MS reported more pain, fatigue, cognitive problems, mental health problems, and dissatisfaction with their access to mental health care than the general MS population, calling attention to the need for more accessible and culturally relevant mental health and social services. <http://www.nationalmssociety.org/news/news-detail/index.aspx?nid=6044>

CCSVI research continues –

- The 7 research projects investigating MS and CCSVI (chronic cerebrospinal venous insufficiency, <http://www.nationalmssociety.org/ccsvi>) that were launched with a \$2.4 million investment by the National MS Society and the MS Society of Canada, reached the two-year milestone, and most are in the process of completing their projects. <http://nationalmssociety.org/news/news-detail/index.aspx?nid=6803>.
- The Canadian Institutes of Health Research announced that a research team has been chosen to conduct a phase I/II clinical trial to determine the safety of venous angioplasty and obtain evidence on patient outcomes in people with MS. This initiative is also being supported by the MS Society of Canada. <http://www.nationalmssociety.org/news/news-detail/index.aspx?nid=6260>
- At ECTRIMS 2012, results were presented of a large prevalence study in Italy suggesting that CCSVI occurs at a low frequency in those with MS and in others without MS. Research on this phenomenon is still ongoing. <http://www.nationalmssociety.org/news/news-detail/index.aspx?nid=7052>

Lives were changed in 2012 with the introduction of a second oral MS therapy, the launch of new collaborative research efforts, and significant results of recent studies promising more options in 2013 for people living with MS.

DOWNLOAD a complete document that summarizes 2012 research progress in the areas of stopping MS, restoring function, and ending MS forever.

<http://www.nationalmssociety.org/research/about-our-research-programs/download.aspx?id=44484>