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RESEARCH/CLINICAL UPDATE

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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 ENDING MS FOREVER

To drive efforts to understand what triggers MS and ways to prevent it, the Society:

- Convened an international summit on vitamin D in MS;
- Renewed funding for an enhanced MS DNA core resource bank to foster better understanding of genes that make people susceptible to MS and may also control the course of an individual's MS.
- Supported several new research projects aimed at:
 - ✓ Understanding how risk factors such as vitamin D levels and genes to contribute to a person's susceptibility to developing MS
 - ✓ investigating how bacteria that naturally live in the human body, including in the intestines, may influence MS susceptibility and disease activity
- Launched a new, \$100,000 annual cash prize to recognize scientists whose inventive work is propelling measurable MS research progress. The Barancik Prize for Innovation in MS Research is the largest ever cash prize for MS research, and is made possible by the generosity of the Charles and Margery Barancik SO Foundation. <http://www.nationalmssociety.org/news/news-detail/index.aspx?nid=7096>

Other important 2012 results toward ending MS include:

Breakthrough in understanding gene activities – A government-supported, global study called the ENCODE project has mapped out specific biological functions of more than 80% of the human genome (genetic material), bringing into sharper focus the complex controls over the turning on and turning off of genetic information within cells. This leap-frog advance will greatly enhance efforts to understand the influence of genes on human diseases like MS. <http://www.genome.gov/27549810>

Studies further understanding of vitamin D and MS risk –

- Researchers in the United Kingdom and Canada reported an association between a rare variation of a gene that controls vitamin D levels and the development of MS in rare families with multiple members who have the disease. This gene variation causes dysfunction that leads to vitamin D deficiency. <http://www.nationalmssociety.org/news/news-detail/index.aspx?nid=5778>

- In a separate study, Swedish investigators found that high levels of vitamin D in the blood of pregnant women was associated with reducing their risk of developing MS later. <http://www.nationalmssociety.org/news/news-detail/index.aspx?nid=7127>
- Men with low blood levels of vitamin D may be more susceptible to MS disability, according to a University of Utah study of 500 people with different types of MS. Read more results from the American Academy of Neurology meeting <http://www.nationalmssociety.org/news/news-detail/index.aspx?nid=6377>

How Epstein-Barr virus may play role in MS – This virus has been linked to increased risk for MS. In active brain lesions in people who had MS in their lifetimes, an international team found high levels of a chemical that helps the body fight viruses, and nearby, immune B cells latently (inactively) infected by Epstein-Barr virus. There was no sign of active viral infection. This may point to a possible mechanism for how the virus might indirectly stimulate MS disease activity. <http://www.nationalmssociety.org/news/news-detail/index.aspx?nid=5836>

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>)