

# Could a vaccine help ward off multiple sclerosis?

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A vaccine used to prevent tuberculosis in other parts of the world may help prevent multiple sclerosis (MS) in people who show the beginning signs of the disease, according to a new study published in the December 4, 2013, online issue of *Neurology*, the medical journal of the American Academy of Neurology.

The study involved 73 people who had a first episode that was suggestive of MS, such as numbness, [vision problems](#) or problems with balance, and an MRI that showed signs of possible MS. About half of all people in this situation, called clinically isolated syndrome, develop definite MS within two years, while 10 percent have no more MS-related problems.

For the study, 33 of the participants received one injection of a live vaccine called Bacille Calmette-Guérin, which is used in other countries to prevent [tuberculosis](#), but is not used for that in the United States. The other participants received a placebo. All of the participants had brain scans once a month for six months. They then received the MS drug interferon beta-1a for a year. After that, they took the MS drug recommended by their neurologist. The development of definite MS was evaluated for five years after the start of the study.

After the first six months, the people who received the vaccine had fewer [brain lesions](#) that are signs of MS than those who received the placebo, with three lesions for the vaccinated and seven lesions for the unvaccinated.

By the end of the study, 58 percent of the vaccinated people had not developed MS, compared to 30 percent of those who received the [placebo](#).

There were no major side effects during the study. There was no difference in side effects between those who received the vaccine and those who didn't.

"These results are promising, but much more research needs to be done to learn more about the safety and long-term effects of this live vaccine," said study author Giovanni Ristori, MD, PhD, of Sapienza University of Rome in Italy. "Doctors should not start using this vaccine to treat MS or clinically isolated syndrome."

The results provide support to the "hygiene hypothesis" that better sanitation and use of disinfectants and antibiotics may account for some of the increased rate of MS and other immune system diseases in North America and much of Europe compared with Africa, South America and parts of Asia, according to Dennis Bourdette, MD, of Oregon Health & Science University in Portland and a Fellow of the American Academy of Neurology, who wrote an accompanying editorial. "The theory is that exposure to certain infections early in life might reduce the risk of these diseases by inducing the body to develop a protective immunity."

Provided by American Academy of Neurology

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