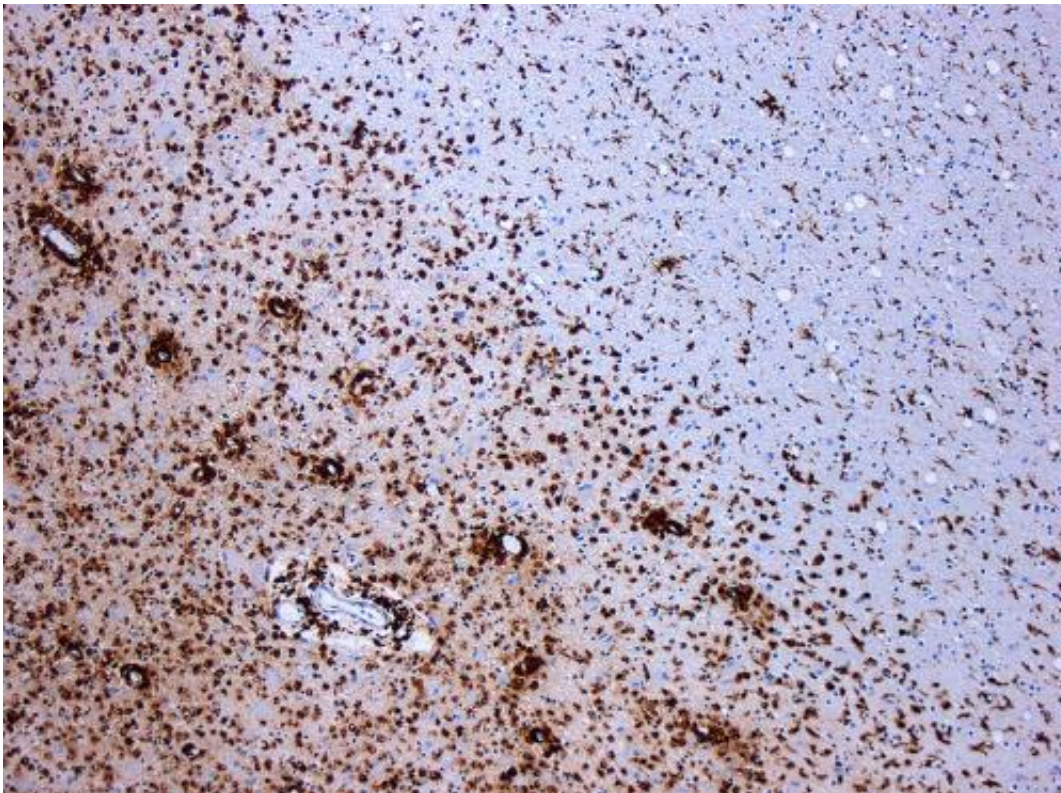


High salt intake could be a risk factor for multiple sclerosis

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Demyelination by MS. The CD68 colored tissue shows several macrophages in the area of the lesion. Original scale 1:100. Credit: [CC BY-SA 3.0](#) Marvin 101/Wikipedia

Here's another reason to put the salt shaker down: New research in mice shows that diets high in sodium may be a novel risk factor in the development of multiple sclerosis (MS) by influencing immune cells that

cause the disease. Although this research does implicate salt intake as a risk factor, it is important to note that dietary salt is likely just one of the many environmental factors contributing to this complex disease, and very much influenced by one's genetic background. This finding was published in the August 2015 issue of *The FASEB Journal*.

"We hope to provide a comprehensive understanding of how and why [environmental factors](#) interact with individuals' unique genetic make up to influence autoimmune diseases such as MS," said Dimitry N. Krementsov, Ph.D., a researcher involved in the work from the Department of Medicine, Immunobiology Program at the University of Vermont in Burlington, Vermont.

To make this discovery, Krementsov and colleagues fed a high salt diet or a control diet to three genetically different groups of mice. Researchers then induced a disease in these mice that mimics human MS. In one genetic group, both males and females fed a high salt diet showed worse clinical signs of the disease. In the other genetic group, only females showed a negative response to salt. In the third genetic group, there was no response to salt. Genetics were the critical factor. In the mice that did respond to salt, there were no direct changes in the function of their [immune cells](#), but they showed signs of a weakened blood-brain barrier.

"As is the case with other things, you need to get enough salt so your body functions properly, but not too much or things start to go haywire," said Gerald Weissmann, M.D., Editor-in-Chief of *The FASEB Journal*. "This report helps shed light on what can go wrong in individuals with genes that make one susceptible to autoimmune disease. It also helps us understand how much salt is just right for any given individual."

More information: Dimitry N. Krementsov, Laure K. Case, William F. Hickey, and Cory Teuscher. Exacerbation of autoimmune

neuroinflammation by dietary sodium is genetically controlled and sex specific. *FASEB J.* August 2015 29:3446-3457; DOI: [10.1096/fj.15-272542](https://doi.org/10.1096/fj.15-272542)

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