

March 2020 Newsletter



Food Allergies and Flares – Do They Go Hand in Hand?

With MS, the immune system misguidedly attacks the protective coating (the myelin sheath) surrounding nerves in the brain and spinal cord. Researchers have determined that both genetics and some sort of environmental trigger play a role in MS pathogenesis. In other words, in order for MS to develop, a genetically vulnerable person must be exposed to something in their environment. Many environmental factors have been investigated over the years, including Epstein Barr virus, smoking, vitamin D deficiency and allergies (among others). There is evidence that these same environmental exposures may be the driving force behind increased MS disease activity.

An allergic reaction occurs when the body's immune system attacks a foreign substance that typically doesn't pose a threat (an [allergen](#)). This can cause many unpleasant symptoms including sneezing, watering eyes, hives or shortness of breath (to name a few). A food allergy occurs when the body's immune system sees a certain food as harmful. Regardless of the type of allergy, even the smallest amount of an allergen can cause problems.



Food allergies have been a focus of MS research for decades. One [study](#), published in 1953, found them to be a contributing factor in MS disease activity. Investigators did skin scratch tests of over 2,200 patients with MS and found the severity of disease was related to specific allergens. When the offending substances were removed, MS symptoms often improved. Data showed the majority of individuals with severe MS symptoms had food allergies. Those with moderate symptoms reacted strongly to molds and fungi and those with mild MS symptoms were sensitive to pollens and chemical substances (medications).



A [2014 study](#) concluded food allergies may play a role in MS disease progression, specifically sensitivity to wheat and dairy products. Researchers studied blood samples from 400 donors of unknown health status, comparing them to samples from people with autoimmune diseases like MS. The blood samples were exposed to proteins from wheat and dairy, as well as proteins that occur naturally in the brain. They found that when the blood samples of people with autoimmune diseases were exposed to an increase in wheat or dairy, the level of [antigens](#) to attack cells in the brain also rose, suggesting that eating wheat or dairy products could possibly increase disease activity in those with MS.

[Investigators](#) from Brigham and Women's Hospital recently confirmed the connection between food allergies and MS. Researchers assessed 1,349 individuals with MS enrolled in the [Comprehensive Longitudinal Investigation of Multiple Sclerosis \(CLIMB\) study](#). Participants completed a questionnaire about environmental, medicinal, and food allergies. Researchers also collected clinical data on each participant's disease severity, including the total number of MS relapses, EDSS scores, MS severity scores and the number of lesions present on MRI. Results showed the total number of relapses was 1.3 times higher in people with food allergies than people with no known allergies, and those with food allergies were more than twice as likely to have disease activity on MRI scans. Subjects with MS who reported food allergies also had 27 percent more flares over the course of their disease than those with no known allergies. Interestingly, data suggest environmental and medication allergies do not have the same effect and EDSS/MS severity scores are not affected by these types of allergy.



A [recent study](#) shows that diet can influence the course of inflammatory diseases in two ways. Dietary factors can directly impact the metabolic process of inflammation in cells.



What you eat can also change the mix of “good” and “bad” bacteria in the digestive tract (the [gut microbiome](#)). A healthy digestive tract is populated by a great number of microorganisms living in balance. A disruption of this balance can have a significant impact on the chronic inflammation that occurs in diseases like MS by leading to the release of chemicals that stimulate

an immune system attack on the brain and spinal cord. The fact that researchers from Brigham and Women’s Hospital connected only food allergies (and not other types of allergies) to MS disease activity supports the theory that there may be a link between gut bacteria and immune system activity in neurological diseases.

More research is needed to confirm the link between food allergies and MS disease activity, as well as determine the underlying mechanism. This important work has the potential to lead to exciting new therapeutic strategies to minimize or possibly prevent relapses in people with MS. ACP’s mission is to facilitate impactful research efforts like this that are of prime importance to the MS community.

