Multiple Sclerosis (MS): What Most Don't Know

By Robert Ferguson

If you know anyone with early signs of MS (Multiple Sclerosis), share this article with them. Share it with their doctor as well. Do the same for those who have already been living with MS. Why? Because it matters. What you'll learn here includes not only important facts about MS, but also ways to lower the risk of being diagnosed. I hope you find value in this article, and if you have questions, feel free to email me at robert@dietfreelife.com.

This article begins with the basics and then moves into insights that even those familiar with MS may find new. Some readers may feel frustrated, and understandably so, because much of what is scientifically validated today could have been useful years ago. Still, no matter where someone is in their MS journey, the information shared here has the potential to make a meaningful difference.

What Is MS?

Multiple Sclerosis (MS) is a disease that affects the brain and spinal cord. In MS, the body's own defense system (the immune system) attacks the covering around nerves. This covering is called **myelin**, and it helps signals travel quickly from the brain to the rest of the body (National Multiple Sclerosis Society, 2023).

When the myelin is damaged, the signals slow down or get blocked. This can cause problems like:

- Weak muscles
- Trouble walking or balancing
- Blurry or double vision
- Numbness or tingling in the arms, legs, or face
- Feeling very tired all the time
- Trouble thinking clearly or remembering things

How Common Is MS?

- Around **2.8 million people worldwide** live with MS (Multiple Sclerosis International Federation, 2020).
- In the United States, about **1 million people** are living with MS (Wallin et al., 2019).
- MS is usually diagnosed between the ages of **20 and 50 years old**, though it can appear earlier or later.
- Women are about **2–3 times more likely** than men to develop MS.

Is MS an Autoimmune Condition?

Yes. MS is an **autoimmune condition**, which means the immune system attacks healthy parts of the body by mistake. Instead of only fighting germs, the immune system also creates **inflammation** that harms the brain and nerves (Lassmann, 2018).

The Role of Inflammation in MS

Inflammation is the body's way of protecting itself. It's helpful when we get a cut or fight off a cold. But too much inflammation, or inflammation that doesn't turn off, causes damage.

In MS, this kind of long-lasting inflammation damages myelin and nerves. Over time, this can make symptoms worse (Hauser & Cree, 2020).

Why Fats and Cell Membranes Matter

Every cell in the body is surrounded by a **cell membrane**, which is made up of fats, proteins, and other molecules. These components protect the cell and control what goes in and out.

When we focus on fats, the types we eat directly affect whether these membranes are flexible or stiff:

- If membranes are **rigid** (too stiff), cells have a harder time sending and receiving signals.
- If membranes are **fluid** (flexible), cells communicate better, and the body can manage inflammation more effectively.

You can think of it like a door: a stiff, swollen door sticks and makes it hard for people to move in and out, while a smooth, flexible door swings easily, allowing traffic to flow. In the same way, fluid membranes make it easier for nutrients, signals, and waste to move in and out of cells.

Omega-3 fats, like those found in fish oil, make membranes more fluid and help calm inflammation. Too many omega-6 fats, which are common in processed foods and vegetable oils, can make inflammation worse (Simopoulos, 2016). The challenge is that **most people aren't getting enough omega-3s**. In fact, a large study of nearly **600,000 dried blood spot samples worldwide** found that omega-3 levels are low across much of the globe, while omega-6 levels remain very high, creating unhealthy omega-6 to omega-3 ratios (Torrissen et al., 2025). This imbalance increases the risk of chronic inflammation, which is central to MS and many other health conditions.

The Arachidonic Acid (AA) to Eicosapentaenoic Acid (EPA) Ratio: A Key Inflammation Marker

Whether this is your first time seeing these terms or you already know them, understanding the **AA to EPA ratio** is important. This ratio is considered one of the most powerful markers **of**

inflammation. Tackling inflammation is crucial because it fuels many health conditions associated with **chronic, low-grade inflammation**, including Multiple Sclerosis (MS).

Think of AA and EPA like a **seesaw**. When AA is much heavier on one side, inflammation tips out of balance and stays stuck on the ground. When EPA helps balance the seesaw, inflammation can be calmed and controlled.

Let's look at the two fatty acids that shape this balance:

- **Arachidonic Acid (AA):** an omega-6 fat that promotes inflammation.
- **Eicosapentaenoic Acid (EPA):** an omega-3 fat that helps reduce inflammation.

Your body uses both AA and EPA to make chemical messengers. When AA is too high and EPA is too low, the body produces more "pro-inflammatory" messengers, which keep inflammation turned on (Calder, 2020).

The **AA to EPA ratio test** is a simple way to measure this balance:

- A **healthy ratio** is usually **under 3:1**.
- Many people today, however, have ratios of **20:1 or higher**, which points to a much greater risk of inflammation (Simopoulos, 2002).

For someone with MS, or even at risk for MS, knowing this ratio is incredibly valuable. It provides a clear picture of inflammation status and can guide food and supplement choices that lower inflammation and support healthier cell function.

Research on AA to EPA and MS

Researchers in Japan, Norway, and across Europe often measure the AA to EPA ratio when studying inflammation and autoimmune diseases. In MS specifically:

- A **12-month clinical trial** in Norway found that people with MS who took fish oil supplements had a big drop in their AA to EPA ratio (from about 19:1 down to 5:1). This shift pointed toward less inflammation (Wergeland et al., 2012).
- Studies show that people with more severe forms of MS have higher levels of AA-derived inflammatory molecules, which are linked to greater disability and brain tissue loss (Židó et al., 2023).
- Fatty acid patterns in red blood cells (RBCs) are also connected to how MS progresses, and these patterns can be improved with omega-3 intake (Håberg et al., 2025).

These studies suggest that the AA to EPA ratio may be a useful **biomarker of inflammation** in MS and could help guide nutrition and lifestyle strategies, even though it's not yet used as a standard test in neurology.

Why Testing Is Important

You can't look at someone and guess their AA to EPA ratio. Even two people eating the same foods may have very different results. That's why testing is important. A small blood test (like a dried blood spot test) can show your ratio and help you track changes over time.

The Bottom Line

Multiple Sclerosis (MS) is an autoimmune condition driven by inflammation. There is no single cure, yet making daily choices that **lower inflammation** can help. Eating more omega-3s, balancing omega-6 intake, and supporting **cell membrane** health are all steps in the right direction.

The smartest next step is to **test, not guess**. Knowing your **Arachidonic Acid (AA) to Eicosapentaenoic Acid (EPA) ratio** gives you real information about your inflammation level and a practical way to take control of your health.

If you would like an at-home test and a simple plan to reduce **chronic, low-grade inflammation**, which many experts estimate affects a large share of people in the United States and Canada, contact the person who shared this article, email me at robert@dietfreelife.com, or **schedule a free consultation** to get answers to your questions and learn about programs that can help you.

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About the Author

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