Is Multiple Sclerosis Hereditary?

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Is MS Hereditary?

With contributions from Ms. LaWana.

There is thought to be over 100 genetic markers that increase a person's risk of developing MS.

Each risk factor on its own gives very little chance of developing the condition, but certain combinations of these genetic associations are more likely to lead to autoimmune diseases like MS.

But is MS hereditary? Are these gene combinations passed through families?

What Is Multiple Sclerosis?

Multiple sclerosis (MS) is an autoimmune disease that occurs when your body mistakenly attacks the protective covering of your nerves called the myelin sheath.

The attack leaves sores which heal and causes scar tissue to grow in its place. These scars interrupt the signals from the brain to the spinal cord and the rest of your body.

These interruptions appear in the form of numbness, tingling, pain, cognitive issues, difficulty walking, problems with vision, the list seems endless.

The name multiple sclerosis stems from the multiple scars the attack leaves in its wake. These scars, also called lesions, can be found on the brain, spinal cord, and optic nerves. Where they are located plays a significant role in what type of symptoms you may experience.

Most of my lesions are on my spinal cord which impedes my mobility. I do also have cognitive issues, which is sometimes difficult in my line of work as a writer.

What Causes MS?

There is no known direct cause for MS, but scientists continue to research the potential cause and genes that trigger the development of MS.

Research to identify the genes that increase the risk of developing this disease can help researchers to better predict who may develop MS and help them to make earlier diagnoses, and therefore begin treatment more promptly.

It may also help scientists discover the mechanisms by which this disease begins and progresses and as a result lead to the development of more effective medical treatments.

Not only are researchers discovering more genes and gene associations to understand the development of MS better, but they are also finding the same sort of genetic combinations that actually may prevent certain individuals from developing this disease and its disabling symptoms.

Certain genes may help individuals form a type of resistance to this and possibly other forms of immune-related disorders.

MS and Heredity

While studies show that MS is not a hereditary disease, there are some genetic factors that come into play.

For instance, no one on either side of my family has ever been diagnosed with MS, but my dad and several of his family members are autoimmune and have different forms of lupus. Incidentally, my dad is an only child. The family members that he shares this autoimmunity and disease with our first and second cousins! I inherited the autoimmunity from my dad and developed MS and graves disease from it.

When you are autoimmune, your body mistakes healthy tissue for a body invader and attacks it. My dad has systemic lupus, and for the 36 years he has lived with the disease, it has attacked his kidneys.

Recently, though, it caused him to suffer congestive heart failure (CHF), even though his heart is not technically damaged. Autoimmune diseases are also known to mimic other diseases, and such is the case with his CHF.

So far, my oldest son is also autoimmune and developed rheumatic heart disease at an early age. My other children are all perfectly healthy.

What About Genetic Testing for MS?

MS continues to be studied, and research results are continually changing. Scientists still have not pinpointed exactly what causes MS, so a definitive genetic test is not available.

There are ongoing genetic studies in the U.S. that you can be a part of, though. Additionally, you can have your DNA tested for genetic predisposition to certain diseases, including MS.

There have been 200 genetic variations found that are related to MS. The more research that is made available, the closer we can get to finding the source of this disease, and ultimately a cure.

Can You Prevent MS?

Because the cause of MS is still unknown, preventing it is a difficult task, though there are some steps you can take to slow the progression of the disease if you are already diagnosed.

- Consult your physician for help in finding a **disease-modifying therapy (DMT).** There are several available and always new ones being developed.
- **Consider a vitamin D supplement.** Low vitamin D levels have been shown to increase the frequency of symptoms. Some feel that it can also help to prevent MS.
- **Diet and exercise** are also beneficial in successfully managing MS.

How to Assess Your MS Risk

There are some very interesting factors that are considered in assessing your risk of developing MS.

- The farther away you live from the equator, the higher your risk of having MS. Scientists believe that the lack of vitamin D from sunshine is a factor.
- If your mother carried you during the winter, it raises your risk, her level of vitamin D being a possibility.

- Your ethnicity plays a role. MS is most common in Caucasians, but there are risks in other ethnicities as well.
- Smokers have a higher risk of developing MS than those who have never smoked. If you have MS, smoking has been shown to progress the disease more quickly.

More on MS and Heredity

As I previously mentioned, MS is not considered a hereditary disease, but genetics play a part in your risk of getting MS.

Some studies show the risk of a mother passing on MS to any or all children is small, about five percent. Interestingly, a father's risk of passing MS to his daughter is small as well, but greater than that of his son. The overall risk for MS is low for most of the population, but higher within families.

The Bottom Line...

Multiple sclerosis is such a difficult disease because it affects everyone differently. The key to prevention and proper management of MS, as with any disease, is taking care of your body.

Eating right and exercise are a vital part of reducing risk factors. Avoiding stress as much as possible help keep your symptoms at bay, as well.

This is a tough journey, but a positive attitude and taking care to remember that there is only one you makes it easier to navigate.

Resources

Sharecare (Is Multiple Sclerosis (MS) Hereditary?)

National MS Society (Searching for MS Genes)

National MS Society (Stop MS In Its Tracks)

Everyday Health (Tips for MS Management)