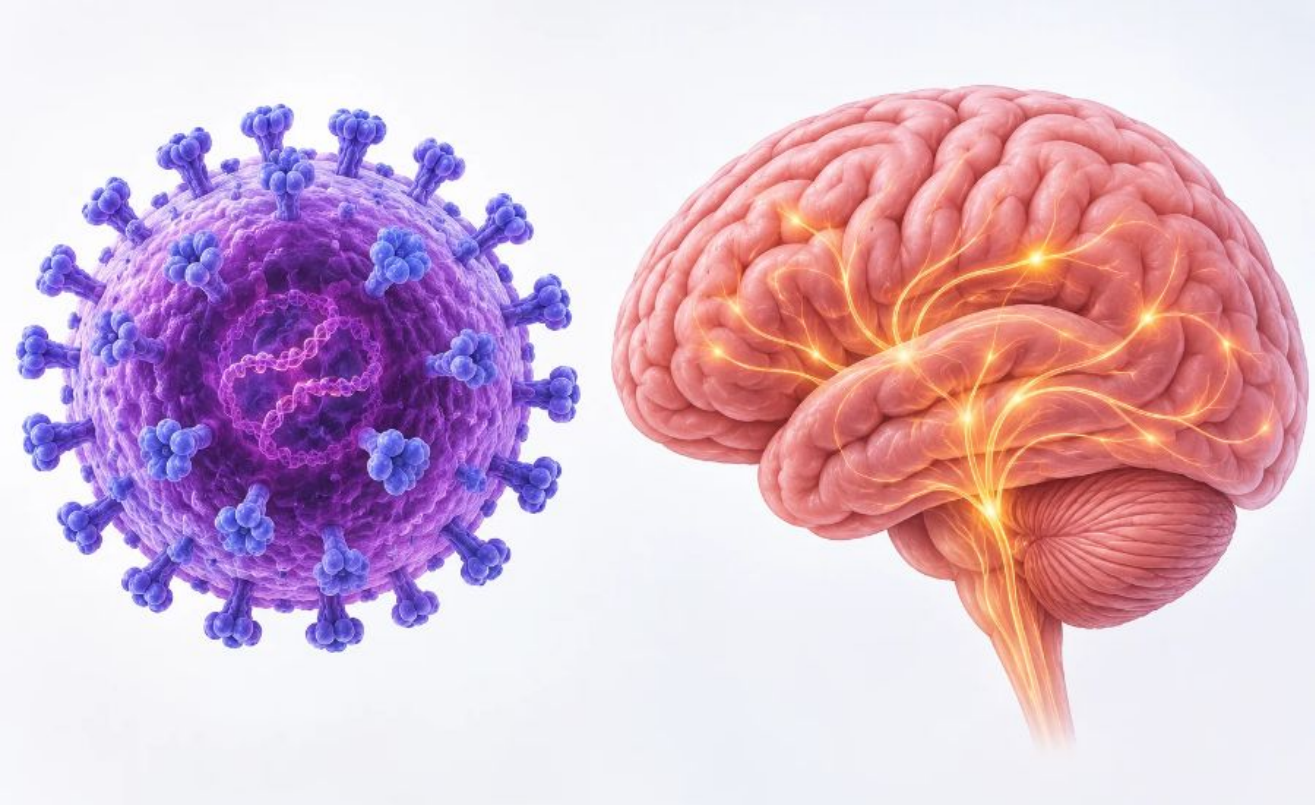
HOME

A Virus That Infects 95% of Adults May Be a Major Trigger of Multiple Sclerosis—Scientists Discover a Surprising Connection

By bestfolkmedicine · 03/11/2026 · 11 min read



For decades, researchers struggled to understand what causes multiple sclerosis, a neurological disease that can affect vision, movement, balance, and memory. Now, major scientific discoveries suggest that one of the world's most common viruses may play a critical role—and the implications could change how doctors approach the disease.

ezstandalone.cmd.push(function () { ezstandalone.showAds(122); });

What if a virus you encountered years ago, perhaps without even realizing it, could influence your risk of developing a serious autoimmune disease later in life?

That possibility is no longer just a scientific theory.

Researchers have uncovered compelling evidence connecting the Epstein–Barr virus (EBV), best known for causing infectious mononucleosis, with multiple sclerosis (MS).

ezstandalone.cmd.push(function () { ezstandalone.showAds(130); });
In one landmark investigation involving more than 10 million U.S. military personnel, scientists found that the risk of developing multiple sclerosis increased approximately 32-fold following Epstein–Barr virus infection.

More recent studies published in 2026 have strengthened the connection, revealing how the virus may interact with immune cells and contribute to the inflammation associated with MS.

ezstandalone.cmd.push(function () { ezstandalone.showAds(131); });
But there is an important detail that changes how these findings should be understood.

Although approximately 95% of adults worldwide have been infected with Epstein–Barr virus, only a very small percentage develop multiple sclerosis.

ezstandalone.cmd.push(function () { ezstandalone.showAds(132); });
So why does the virus appear to contribute to disease in some people while remaining harmless in most others?

Scientists believe the answer may involve a complex interaction between viral infection, genetics, and the immune system.

What Is Epstein–Barr Virus?

Epstein–Barr virus belongs to the herpesvirus family and is one of the most widespread human viruses.

ezstandalone.cmd.push(function () { ezstandalone.showAds(133); });
It is primarily transmitted through saliva, which explains why infectious mononucleosis is sometimes called the “kissing disease.”

However, kissing is not the only way the virus spreads. Sharing drinking glasses, utensils, or other objects exposed to infected saliva may also contribute to transmission.

Most people encounter EBV during childhood or adolescence.

In young children, infection frequently causes few noticeable symptoms.

When infection occurs later in life, particularly during adolescence or early adulthood, it is more likely to cause infectious mononucleosis.

ezstandalone.cmd.push(function () { ezstandalone.showAds(134); });
Common symptoms include:

- Extreme fatigue
- Sore throat
- Swollen lymph nodes
- Fever
- Headaches and body aches
- Enlarged spleen in some cases

Most people recover, although fatigue can occasionally persist for weeks or months.

One unusual characteristic of EBV is that it remains in the body after the initial infection.

The virus can enter a dormant state inside certain immune cells, particularly B lymphocytes, and remain there for life.

ezstandalone.cmd.push(function () { ezstandalone.showAds(135); });
For most people, this lifelong infection never causes significant health problems.

But researchers now suspect that EBV may influence immune function differently in people who develop multiple sclerosis.

What Exactly Is Multiple Sclerosis?

Multiple sclerosis is a chronic immune-mediated disease affecting the central nervous system, which includes the brain and spinal cord.

ezstandalone.cmd.push(function () { ezstandalone.showAds(136); });
In MS, the immune system mistakenly attacks components of the nervous system, particularly myelin.

Myelin is a protective insulating layer surrounding nerve fibers.

It helps electrical signals travel efficiently between the brain and different parts of the body.

When myelin becomes damaged, nerve communication may slow down or become disrupted.

ezstandalone.cmd.push(function () { ezstandalone.showAds(137); });
Over time, inflammation can also injure the underlying nerve fibers.

Depending on which areas of the nervous system are affected, MS can produce a wide range of symptoms.

These may include blurred vision, numbness, muscle weakness, fatigue, balance difficulties, and problems with coordination.

ezstandalone.cmd.push(function () { ezstandalone.showAds(138); });
The disease varies considerably between individuals.

Some experience episodes of neurological symptoms followed by periods of partial or complete recovery, while others develop gradually worsening disability.

For years, scientists have investigated genetic susceptibility, vitamin D status, smoking, obesity, and environmental factors as possible contributors to MS.

Now, Epstein–Barr virus has become one of the strongest suspects in understanding how the disease begins.

ezstandalone.cmd.push(function () { ezstandalone.showAds(139); });

The Landmark Study That Changed Everything

A major scientific breakthrough came in January 2022, when researchers published findings in the journal Science.

The investigation analyzed data from more than 10 million U.S. military personnel whose blood samples had been collected over approximately two decades.

Researchers identified individuals who developed multiple sclerosis and examined blood samples taken before their diagnosis.

ezstandalone.cmd.push(function () { ezstandalone.showAds(140); });
This allowed scientists to investigate an especially important question:

Did Epstein–Barr infection occur before the development of MS?

The results were striking.

Among 801 individuals with MS whose blood samples were available for detailed analysis, 800 showed evidence of EBV infection before disease onset.

Researchers also identified 35 people who were initially EBV-negative and subsequently developed multiple sclerosis.

Of those individuals, 34 had become infected with EBV before developing MS.

ezstandalone.cmd.push(function () { ezstandalone.showAds(141); });
After comparing participants with matched controls, scientists calculated that the risk of MS increased approximately 32-fold following EBV infection.

Importantly, this increase was not observed with another common virus, cytomegalovirus.

The researchers also examined neurofilament light chain, a protein that can indicate nerve injury.

ezstandalone.cmd.push(function () { ezstandalone.showAds(142); });
Levels of this biomarker increased after EBV infection rather than before it.

Together, these findings provided some of the strongest evidence yet that Epstein–Barr virus may be involved in triggering multiple sclerosis.

A New 2026 Study Revealed Another Important Clue

Research published in July 2026 in Science Translational Medicine added a fascinating piece to the puzzle.

ezstandalone.cmd.push(function () { ezstandalone.showAds(143); });
Scientists examined immune responses to EBV in people with and without multiple sclerosis.

They focused on CD4-positive T cells, specialized immune cells that help coordinate immune responses.

The researchers discovered that people with untreated MS had approximately twice the EBV-specific CD4 T-cell response observed in healthy controls.

ezstandalone.cmd.push(function () { ezstandalone.showAds(144); });
This heightened response was particularly associated with proteins produced during certain stages of viral activity.

Interestingly, the same pattern was not observed for other herpesviruses examined in the study.

Researchers also found that treatment with anti-CD20 therapies, which target B cells, reduced these EBV-specific immune responses.

ezstandalone.cmd.push(function () { ezstandalone.showAds(145); });
These observations suggest that the relationship between EBV and MS may involve ongoing interactions between infected B cells and other immune cells.

The findings do not establish that the heightened immune response alone causes MS.

However, they provide a more detailed picture of how EBV may contribute to abnormal immune activity.

ezstandalone.cmd.push(function () { ezstandalone.showAds(146); });

Could the Immune System Be Attacking the Wrong Target?

One of the leading explanations involves a phenomenon known as molecular mimicry.

Normally, the immune system recognizes foreign substances such as viruses and bacteria.

It produces antibodies and activates immune cells to defend the body.

ezstandalone.cmd.push(function () { ezstandalone.showAds(147); });

But sometimes, proteins produced by infectious organisms resemble proteins naturally found in human tissues.

When this happens, an immune response directed against an infection may also react with the body's own cells.

Researchers have identified similarities between an Epstein–Barr viral protein called EBNA1 and a human protein known as GlialCAM, which is present in the central nervous system.

ezstandalone.cmd.push(function () { ezstandalone.showAds(148); });
Certain antibodies that recognize EBNA1 can also react with GlialCAM.

This raises the possibility that immune responses against EBV may mistakenly target components of the nervous system in susceptible individuals.

Molecular mimicry is not the only proposed mechanism.

Researchers are also investigating how EBV infection changes B-cell behavior, interacts with genetic risk factors, and affects immune regulation.

ezstandalone.cmd.push(function () { ezstandalone.showAds(149); });
The most likely explanation may involve several biological processes acting together.

Why Doesn't Everyone With Epstein–Barr Virus Develop MS?

This is one of the most important questions in the entire discussion.

If nearly everyone becomes infected with EBV, why does multiple sclerosis remain relatively uncommon?

ezstandalone.cmd.push(function () { ezstandalone.showAds(150); });
Researchers believe EBV infection alone is insufficient to cause the disease.

Other factors appear to influence susceptibility.

Genetic Predisposition

Certain inherited genetic variations are associated with a higher risk of developing MS.

One of the most significant is HLA-DRB1*15:01, a variation involving genes that help regulate immune recognition.

ezstandalone.cmd.push(function () { ezstandalone.showAds(151); });
Researchers suspect that these genetic differences may influence how the immune system responds to EBV.

However, carrying a genetic risk variant does not mean someone will inevitably develop MS.

Vitamin D and Sunlight Exposure

Low vitamin D levels and limited sunlight exposure have been associated with increased MS risk in population studies.

ezstandalone.cmd.push(function () { ezstandalone.showAds(152); });
Vitamin D plays a role in normal immune function, although the precise relationship between vitamin D and MS development remains complex.

Maintaining adequate vitamin D status supports general health, but supplements have not been proven to prevent MS in otherwise healthy people.

Smoking and Other Environmental Factors

Cigarette smoking is an established modifiable risk factor for MS.

ezstandalone.cmd.push(function () { ezstandalone.showAds(153); });
Adolescent obesity has also been associated with increased susceptibility.

Researchers are investigating how these environmental influences interact with genetics and viral infection.

The emerging picture is not one of a single cause acting independently.

Instead, MS appears to arise from a combination of biological and environmental influences, with Epstein–Barr virus potentially playing a particularly important initiating role.

ezstandalone.cmd.push(function () { ezstandalone.showAds(154); });

Another 2026 Discovery: Mononucleosis May Increase MS Risk

Research published in April 2026 in Neurology Open Access examined whether people with laboratory-confirmed EBV-positive infectious mononucleosis faced a higher risk of subsequently developing multiple sclerosis.

The study compared 4,721 people who had experienced EBV-positive mononucleosis with 14,163 matched individuals without a documented history of mononucleosis.

During follow-up, multiple sclerosis developed in eight people from the mononucleosis group and ten people in the comparison group.

ezstandalone.cmd.push(function () { ezstandalone.showAds(155); });
After statistical adjustment, the researchers found that people with EBV-positive mononucleosis had more than three times the risk of developing MS.

However, the absolute numbers are important.

Only 0.17% of participants in the mononucleosis group developed MS during follow-up, compared with 0.07% of controls.

The study therefore reinforces the association while showing that the overwhelming majority of people who experience mononucleosis do not develop multiple sclerosis.

ezstandalone.cmd.push(function () { ezstandalone.showAds(156); });
Because relatively few participants developed MS, the estimated increase in risk also had considerable statistical uncertainty.

Can Epstein–Barr Virus Reactivate Years Later?

Yes.

After the initial infection, EBV can remain dormant in the body and occasionally reactivate.

Reactivation does not necessarily cause noticeable symptoms.

In many healthy individuals, the immune system keeps the virus under control.

ezstandalone.cmd.push(function () { ezstandalone.showAds(157); });

Researchers are investigating whether abnormal EBV activity or immune responses to reactivation contribute to MS development or disease activity.

A September 2026 study published in Nature Medicine identified changes in immune-cell activity preceding some MS relapses that were associated with biological signatures responsive to EBV reactivation.

These findings suggest that viral activity may be relevant not only to the initial development of MS but potentially to aspects of disease progression.

ezstandalone.cmd.push(function () { ezstandalone.showAds(158); });
However, the research was observational.

It does not demonstrate that every MS relapse is caused by EBV reactivation or that treating presumed reactivation will prevent neurological symptoms.

Further clinical studies are needed.

Could an Epstein–Barr Vaccine Help Prevent Multiple Sclerosis?

Perhaps the most exciting implication of this research concerns future prevention.

If EBV plays a major causal role in MS, preventing infection might eventually reduce the likelihood of developing the disease.

ezstandalone.cmd.push(function () { ezstandalone.showAds(159); });
Scientists are investigating experimental EBV vaccines using several technologies, including mRNA-based approaches.

Researchers are also exploring treatments that target EBV-infected immune cells or particular immune responses associated with the virus.

However, as of November 2026, no EBV vaccine has been demonstrated to prevent multiple sclerosis.

ezstandalone.cmd.push(function () { ezstandalone.showAds(160); });
There is also no established treatment that eliminates latent EBV infection from the body and thereby cures MS.

Existing disease-modifying treatments can reduce relapses and slow disease activity in many patients, but they should not be confused with therapies proven to eradicate Epstein–Barr virus.

The potential for EBV-targeted prevention is promising, but establishing its effectiveness will require extensive clinical testing.

ezstandalone.cmd.push(function () { ezstandalone.showAds(161); });

Should You Get Tested for Epstein–Barr Virus?

Learning about the connection between EBV and MS may prompt people to consider blood testing.

But routine EBV screening is not currently recommended as a method of predicting who will develop multiple sclerosis.

Because approximately 95% of adults have previously encountered the virus, a positive EBV antibody test is extremely common.

ezstandalone.cmd.push(function () { ezstandalone.showAds(162); });
It does not mean someone has MS.

It also does not indicate that MS will develop in the future.

Likewise, discovering that EBV antibodies are present does not establish that a person needs antiviral treatment.

Testing may be useful when a healthcare professional suspects infectious mononucleosis or another specific EBV-related condition.

ezstandalone.cmd.push(function () { ezstandalone.showAds(163); });
People experiencing persistent or unexplained neurological symptoms should receive appropriate medical assessment rather than relying on EBV testing alone.

Symptoms That Should Not Be Ignored

Although most people infected with Epstein–Barr virus never develop MS, certain neurological symptoms deserve medical attention.

These include:

- New or persistent blurred vision, particularly with eye pain
- Numbness or tingling that lasts or progresses
- Unexplained muscle weakness
- Difficulty walking or maintaining balance
- Persistent double vision
- Unusual coordination problems
- Changes in bladder function accompanied by neurological symptoms

These symptoms can arise from many conditions other than MS.

ezstandalone.cmd.push(function () { ezstandalone.showAds(164); });
They should not be interpreted as proof of a viral cause or autoimmune disease.

Sudden weakness, loss of vision, speech difficulties, or severe neurological changes require urgent medical assessment because they may indicate a medical emergency.

Final Thoughts: Could One Common Virus Change the Future of MS Prevention?

The growing scientific evidence connecting Epstein–Barr virus to multiple sclerosis represents an important development in neurological research.

ezstandalone.cmd.push(function () { ezstandalone.showAds(165); });
A virus that infects nearly everyone appears to play a significant role in a disease that affects only a small minority of people.

The landmark 2022 military study demonstrated a striking association between EBV infection and subsequent MS risk.

Research published in 2026 has helped scientists better understand the immune mechanisms that may connect the two conditions.

ezstandalone.cmd.push(function () { ezstandalone.showAds(166); });

Yet important questions remain.

Why do only certain individuals develop MS after EBV infection?

Which genetic and environmental factors determine susceptibility?

And could preventing or modifying the body's response to EBV eventually reduce the burden of this serious neurological disease?

The answers could transform future approaches to prevention and treatment.

ezstandalone.cmd.push(function () { ezstandalone.showAds(167); });
For now, one point deserves particular emphasis:

Having Epstein–Barr virus does not mean you will develop multiple sclerosis.

Most people infected with EBV remain free of the disease throughout their lives.

But understanding why a common virus contributes to serious illness in a small number of people may help researchers unlock an entirely new chapter in autoimmune disease prevention.

ezstandalone.cmd.push(function () { ezstandalone.showAds(168); });
Did you know that the virus responsible for mononucleosis has such a strong connection to multiple sclerosis? Share your thoughts in the comments.

Read online: https://bestfolkmedicine.com/2026/11/epstein-barr-virus-multiple-sclerosis-connection-2026/

Downloaded on 29/11/2026

DISCLAIMER: We do not provide medical advice and nothing contained herein shall be construed as medical advice. The contents such as text, comments, graphics, images, videos and other content contained on this site are for informational purposes only. Statements on this website have not been evaluated by the Food and Drug Administration, and are not intended to diagnose, treat, cure or prevent any disease. Always consult your personal physician before starting any fitness or exercise program or changing dietary habits. The content of this site is not intended to be a substitute for professional medical advice, diagnosis, or treatment. It is not a substitute for a medical exam, nor does it replace the need for services or counsel provided by medical professionals.