

ALZHEIMER'S SCIENCE NEWS

FALL 2024



STUDY FINDS CHANGES TO IMMUNE CELLS IN ALZHEIMER'S

A study funded by Alzheimer's Disease Research found that genes linked to a higher Alzheimer's risk may be influenced by individual lifestyle choices and behaviors.

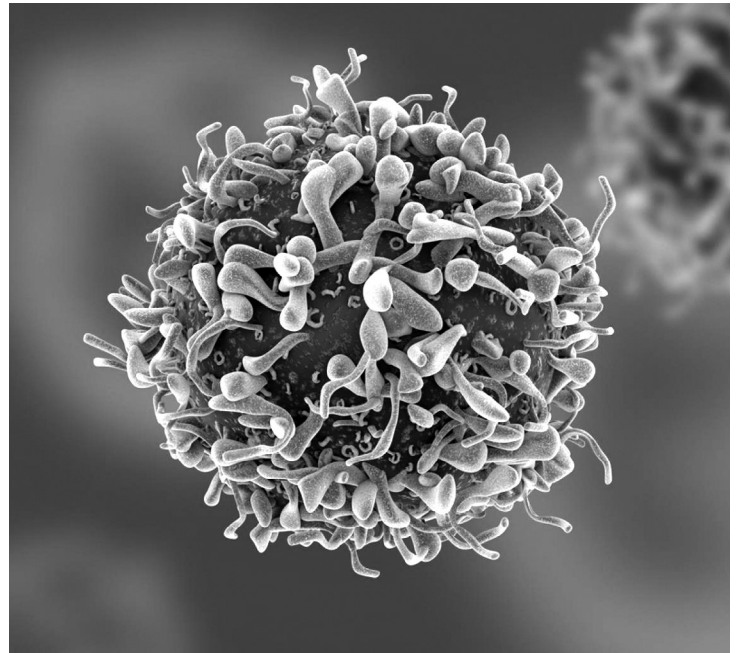
The researchers, led by David Gate, PhD, of Northwestern University, investigated immune cells in the blood of people with Alzheimer's. They found that every type of immune cell showed modifications driven by a person's behavior or environment, called "epigenetic" changes. These epigenetic changes can control how much or how little the gene becomes a protein.

The immune cell genes most impacted by these changes are also known risk factors for Alzheimer's. For example, a gene whose protein is thought to facilitate T-cell entry into the brain was particularly vulnerable to epigenetic changes. Environmental factors, lifestyle, or viral infections may trigger these gene modifications.

These findings confirm that peripheral changes in immune cell function are associated with Alzheimer's disease.

With Alzheimer's Disease Research funding, Dr. Gate is now studying postmortem brain tissue to find

if specific immune cells, like T-cells, appear in the same places as misfolded key proteins in Alzheimer's. This research could ultimately lead to more accessible therapeutic targets.



**Your generosity helps scientists uncover the
role of immune cells in Alzheimer's risk.**

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PRESIDENT'S CORNER

I'm confident we will one day defeat Alzheimer's. Why? Because we have friends like you who share our commitment to stopping this mind-stealing disease.

As you'll read about in this newsletter, a scientist we funded has uncovered a connection between behavioral choices and the genes linked to Alzheimer's risk. Another is studying how tiny blood clots in the brain could provide both a marker and a treatment target for this disease. You'll also learn about medical conditions that can mimic dementia.

Thank you for making all our mind-saving work possible. Together, we *will* find a cure.

Stacy Pagos Haller

WHAT'S NEXT FOR ALZHEIMER'S TREATMENTS?

There are many research advances underway in the treatment of Alzheimer's. Here are just a few examples:

Kisunla (donanemab) was approved by the U.S. Food and Drug Administration in June for the treatment of early symptomatic Alzheimer's disease. This amyloid-clearing drug has been shown to slow cognitive decline by 35 percent.

ALZ-801 is the first oral medication targeting amyloid. Currently in clinical trials, it offers easier treatment access and fewer side effects compared to current intravenous therapies. It's based on a drug called tramiprostate, which a scientist funded by Alzheimer's Disease Research helped develop.

Two other drugs are in clinical trials, with results expected soon. **AXS-05**, a repurposed antidepressant, targets Alzheimer's-related agitation. **Simufilam** blocks filamin A, a biological factor tied to amyloid plaques and tau tangles.

Lastly, researchers in the large-scale **U.S. POINTER Study**, which is examining the effects of exercise, diet, and other lifestyle changes on cognition for those at risk for dementia, expect to present their findings in 2025.

These advances show the steady progress being made toward a better future for millions of people with Alzheimer's.



Scientists are working tirelessly to find new ways to treat and prevent Alzheimer's.

RESEARCHER SPOTLIGHT: Marta Casquero-Veiga, PhD

Blood clot risk has been identified in the brains of some people in the early stages of Alzheimer's. The tiny clots that result may serve as a marker of the disease and offer a target for clot-inhibiting treatments.

Using lab models, Marta Casquero-Veiga, PhD, at the Jiménez Díaz Foundation Health Research Institute in Spain, and her colleagues will investigate the development of these tiny clots, using



Marta Casquero-Veiga, PhD

a novel radio-isotope tracer they developed. They will follow the tracer using PET and MRI imaging techniques.

The tracers will highlight both the location of clotting-related factors and the process of clotting. This study could lead to a potential tool for diagnosing early Alzheimer's and offer a treatment target to slow disease progression.

MEDICAL CONDITIONS THAT CAN MIMIC DEMENTIA

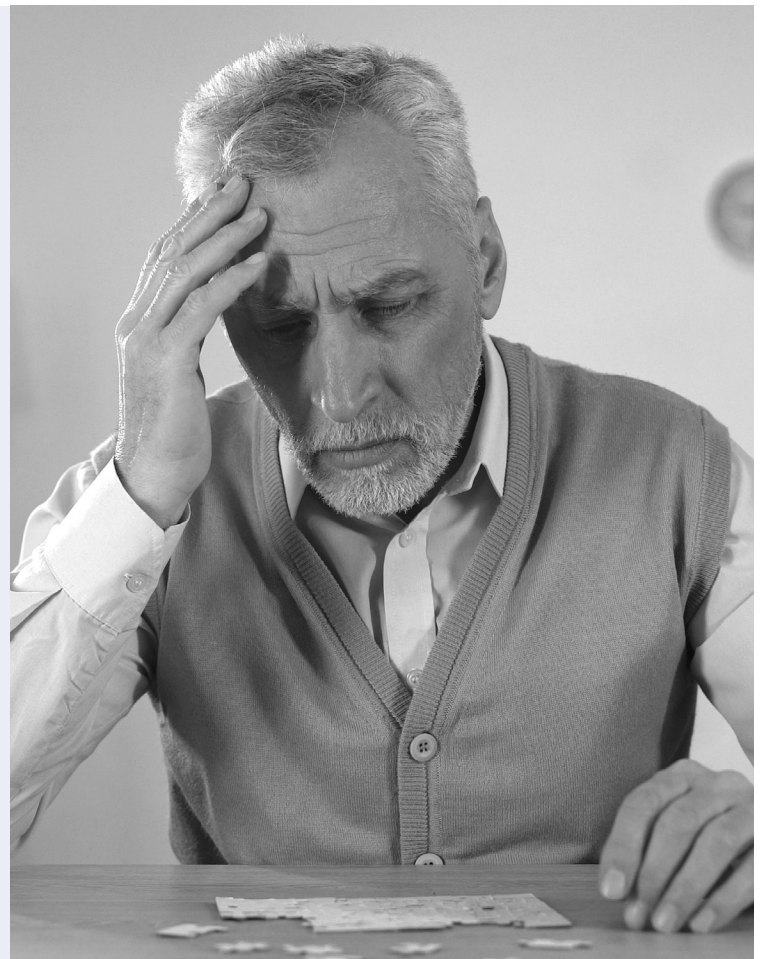
Many medical disorders can cause cognitive disturbances that may be mistaken for dementia.

A head injury—even from a fall that doesn't seem serious—can result in trauma to the brain and be followed by significant cognitive problems.

Hearing and vision loss can create symptoms similar to cognitive impairment, which may worsen as the individual becomes increasingly isolated by their sensory limitations.

Heart and lung diseases can reduce oxygen to the brain, impacting memory and alertness. Kidney and liver diseases, hormonal imbalances, infections like Lyme disease, certain cancers, toxic metals, and malnourishment can all cause dementia-like symptoms.

Fortunately, many of these issues are treatable. A dementia assessment should always include tests to look for these medical conditions. Based on results, it should be followed by a physical exam, including blood and urine tests. Recognizing that



some medical conditions can mimic dementia allows for appropriate treatment, improving patients' quality of life.

Sign up for our FREE monthly live conversation series with renowned research scientists and clinicians to keep you informed about the latest findings—from treatments and genetics to risk reduction, supplements, and more! You can also ask questions during a live Q&A. All sessions are recorded and available to watch on demand.

To register and catch up on previous episodes, visit:
brightfocus.org/ADRzoom

**Zoom In on
Dementia &
Alzheimer's**

FIGHT ALZHEIMER'S WHILE GAINING TAX BENEFITS

If you are 70½ or older and would like to make a significant impact in the fight against Alzheimer's, then consider an IRA qualified charitable distribution. It enables you to lower the income and taxes from your IRA withdrawals, while also supporting our mind-saving work.

Benefits of an IRA qualified charitable distribution:

- You avoid taxes on transfers of up to \$100,000 from your IRA to Alzheimer's Disease Research.
- It may satisfy your required minimum distribution (RMD) for the year.
- It can reduce your taxable income, even if you do not itemize deductions.
- You can make a gift that is not subject to the deduction limits on charitable gifts.
- It helps further our important work and mission.

How an IRA qualified charitable distribution gift works:

- Contact your IRA plan administrator to make a gift from your IRA to us.
- Your IRA funds will be directly transferred to Alzheimer's Disease Research to help continue our vital work.

To learn more about DAFs, please contact us at **301-556-9362** or plannedgiving@brightfocus.org.



An IRA qualified charitable distribution can help you save on taxes while supporting vital Alzheimer's research and education.



**Alzheimer's
Disease
Research**

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Please share this newsletter with someone you know who might be interested in learning about some of the latest advancements in research to diagnose, prevent, treat, and cure Alzheimer's disease.

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22512 Gateway Center Drive, Clarksburg, Maryland 20871 • 855-345-6237 • brightfocus.org/stopAD



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