

**EMBARGOED UNTIL 12:01 A.M. EST  
TUESDAY, SEPTEMBER 10, 2024**



**The  
Menopause  
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**Trauma Exposure Accelerates Brain Aging Which Can Lead to Alzheimer's Disease**

*New study suggests greater trauma (especially sexual trauma) exposure associated with greater white matter brain aging and neuroinflammation, particularly for Black women*

CLEVELAND, Ohio (Sept 10, 2024) –As the median age of our population rises, so does the number of people diagnosed with Alzheimer's disease. With advances in technology, it's easier to determine brain age and identify blood-based Alzheimer's disease biomarkers. A new study links trauma exposure with brain age blood markers of risk for Alzheimer's disease. Results of the study will be presented at the 2024 Annual Meeting of The Menopause Society in Chicago September 10-14.

According to the Centers for Disease Control, the number of people living with Alzheimer's disease doubles every five years beyond age 65. This number is projected to nearly triple to 14 million people by 2060. Two thirds of those with Alzheimer's disease are women. Alzheimer's disease causes the brain to shrink and brain cells to die, causing a gradual decline in memory, thinking, behavior, and social skills. The disease is not only heart-breaking for family members but is also very costly to manage. There is little wonder why so much research focuses on early identification and mitigation strategies.

Recent research has been facilitated by multiple advances in medical technology, including advanced neuroimaging-based measures of brain age and the ability to differentiate white matter and gray matter brain age. This is notable given early indication that white matter changes may be particularly relevant to women's brain health. In addition, recent advances in assessing Alzheimer's disease risk include blood-based biomarkers that are especially useful to assess risk decades before the emergence of this type of dementia.

A new study based on data from more than 250 women of various ethnicities sought to test whether (1) women with greater trauma exposure had older brain age, considering both gray matter and white matter brain age; (2) women with greater trauma exposure had adverse Alzheimer's biomarker profiles; and (3) associations between trauma exposure and brain age or Alzheimer's disease biomarkers varied by race/ethnicity.

Study findings indicated that greater trauma exposure was associated with markers of accelerated brain age, particularly white matter brain age. In fact, trauma exposure appeared to confer over three additional years of white matter brain aging relative to women without trauma exposure. Findings also indicated that greater trauma exposure was associated with adverse blood markers of neuroinflammation and neuronal death, particularly for Black women. Of the traumas assessed, sexual trauma emerged as particularly toxic for women's brain health.

“Prior work has found that childhood trauma is associated with poorer physical and neurocognitive health,” says Dr. Rebecca Thurston, Principal Investigator and Director of the Women's Biobehavioral Health Program at the University of Pittsburgh. “However, previous research was largely focused on

childhood trauma. How adult trauma, including sexual trauma, relates to women's brain health at midlife is relatively unknown. Findings underscore that adult trauma, and particularly sexual trauma, is important to women's brain health. They also indicate that Black women may be particularly vulnerable to the adverse brain effects of trauma exposure. These data point to the importance of preventing trauma to support women's brain health as they age."

More detailed results will be discussed at the 2024 Annual Meeting of The Menopause Society as part of the presentation entitled "Trauma exposure, brain age, and plasma Alzheimer's disease biomarker in women."

"With the number of people living with Alzheimer's disease projected to nearly triple, and with two thirds of those being women, it's imperative we understand the role trauma may play and discuss this with our patients," says Dr. Stephanie Faubion, medical director for The Menopause Society. "That's why studies like this one are so valuable."

Drs. Thurston and Faubion are available for interviews prior to the Annual meeting.

For more information about menopause and healthy aging, visit the newly redesigned [www.menopause.org](http://www.menopause.org).

The Menopause Society (formerly The North American Menopause Society) is dedicated to empowering healthcare professionals and providing them with the tools and resources to improve the health of women during the menopause transition and beyond. As the leading authority on menopause since 1989, the nonprofit, multidisciplinary organization serves as the independent, evidence-based resource for healthcare professionals, researchers, the media, and the public and leads the conversation about improving women's health and healthcare experiences. To learn more, visit [menopause.org](http://menopause.org).