

# Anxious and forgetful after menopause? Low estrogen may be to blame

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Lack of estrogen may play a role in the development of anxiety and memory problems, according to a new rodent study. The findings will be presented today at the American Physiological Society's (APS) Cardiovascular, Renal and Metabolic Diseases: Sex-Specific Implications for Physiology conference in Knoxville, Tenn.

Estrogen, the primary female sex hormone, regulates the female reproductive system. As a woman approaches menopause, dwindling ovarian function—which results in low levels of ovarian hormones—causes the estrogen supply in the brain to drop. Areas of the brain that are involved in mood, behavior and cognition have a high concentration of proteins that bind to estrogen (estrogen receptors). Researchers from Georgetown University in Washington, D.C., and the Federal University of Ouro Preto in Brazil theorized that for this reason, "[estrogen](#) deficiency could lead to anxiety development and memory impairments."

The research team studied female rats without ovaries to mimic human menopause. They administered standardized tests that measured anxiety and assessed short-term recognition of objects and spatial memory (memory of temporary locations and the relationships between objects in space). The menopausal rats showed higher levels of anxiety and a decrease in recognition memory compared to an age-matched control group. There was no difference in spatial memory between the two groups. These results suggest that normal hormone imbalances contribute to some of the emotional symptoms associated with menopause, such as anxiety, as well as minor memory problems.

**More information:** The study, "Ovariectomy induces anxiety-like behavior and short-term recognition memory impairment," will be part of a poster session on Monday, October 1, at the Crowne Plaza Knoxville.

[www.the-aps.org/mm/Conferences...onferences/SexGender](http://www.the-aps.org/mm/Conferences...onferences/SexGender)

Provided by American Physiological Society

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