

# PTSD raises odds of heart attack and stroke in women

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Micrograph showing cortical pseudolaminar necrosis, a finding seen in strokes on medical imaging and at autopsy. H&E-LFB stain. Credit: Nephron/Wikipedia

Women with elevated symptoms of post-traumatic stress disorder consistent with the clinical threshold for the disorder had 60 percent higher rates of having a heart attack or stroke compared with women who never experienced trauma, according to scientists at Columbia University's Mailman School of Public Health and the Harvard T.H.

Chan School of Public Health. Results appear in *Circulation*, the journal of the American Heart Association.

In a survey of nearly 50,000 younger and middle-aged women in the Nurses' Health Study II, 80 percent reported experiencing a traumatic event in their lives. More than half of this group (58 percent) reported no [symptoms](#) of PTSD. Those reporting symptoms of PTSD were split evenly between those with one to three symptoms and those with four or more symptoms, a commonly used clinical cut-off for PTSD.

Trauma exposure alone—that is, reporting trauma but no symptoms of PTSD—also increased risk for [heart attack](#) and stroke by nearly 50 percent. However, cardiovascular risk in women who experienced trauma with one to three symptoms of PTSD was unchanged.

## Psychological trauma, physical health

Behaviors like smoking and lack of physical activity and medical factors like hypertension and the use of antidepressants accounted for nearly half the association between PTSD and [cardiovascular disease](#) in women with four or more symptoms of PTSD, but less than 15 percent in women who reported trauma without PTSD.

"Posttraumatic stress is truly heartbreaking. Our findings suggest that psychological impact of trauma is not limited to a woman's emotional health but also affects her heart health," says first author Jennifer Sumner, Ph.D., Epidemiology Merit Fellow at Columbia's Mailman School and Visiting Scientist at the Harvard T.H. Chan School.

While more research is needed, the authors say PTSD may disrupt physiological stress systems such as the hypothalamic-pituitary-adrenal axis and the autonomic nervous system, in addition to leading to various unhealthy behaviors that may increase risk of heart attack and stroke.

## The takeaway

"Most women experience [psychological trauma](#) at some point in their life, but few know that there could be serious long-term repercussions for physical health," says senior author Karestan Koenen, Ph.D., a professor of epidemiology at Columbia's Mailman School and the Harvard T.H. Chan School, whose earlier studies linked PTSD in women to diabetes and obesity.

"Our results provide further evidence that PTSD is not solely a mental health problem, but also increases risk of chronic disease," continues Koenen. "The medical system needs to stop treating the mind and the body as if they are separate. Patients need access to integrated mental and [physical health](#) care."

According to the authors, women who experienced [trauma](#)—even if they don't have symptoms of PTSD—should talk to their doctor about their risk for cardiovascular disease and how to lower it.

"PTSD emerged as a risk factor for cardiovascular disease in a sample of younger and middle-aged women all under the age of 65. This suggests that cardiovascular [health](#) and related risk factors should be assessed early in clinical settings," says Sumner. Physical activity, diet, and drug treatments like aspirin and statins are known to lower risk for heart attack and stroke. It is not yet clear if treating PTSD can lower [cardiovascular risk](#).

## Women and PTSD

Unlike previous research, which has largely focused on men with PTSD related to combat, the new study looks at women and a wide range of traumas, from sexual and physical assault to surviving a natural disaster.

"PTSD is twice as common in women than in men, and women with PTSD are more likely to have severe and persistent symptoms," says Koenen. "Likewise, women with cardiovascular disease are more likely to be hospitalized and die from a heart attack compared with men. For all these reasons, it's critical that we understand how PTSD contributes to cardiovascular disease in [women](#)."

Provided by Columbia University's Mailman School of Public Health

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