

# How anger could raise your heart risks

May 1 2024, by Ernie Mundell

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Feeling angry constricts blood vessels in unhealthy ways and could raise a person's long-term odds for heart disease, new research warns.

"If you're a person who gets angry all the time, you're having chronic injuries to your blood vessels," said study leader Dr. Daichi Shimbo, a

cardiologist at Columbia University Irving Medical Center in New York City.

His team conducted experiments where the activity of blood vessels was monitored while people were in angry states versus states of anxiety, sadness or neutral emotions.

They found that an angry state of mind was tied to a temporary inability of the blood vessels to dilate (relax) as they should. These effects lasted up to 40 minutes after the angry outburst was over.

"We've long suspected, based on [observational studies](#), that anger can negatively affect the heart. This study in [healthy adults](#) helps fill a real knowledge gap and shows how this might occur," said Laurie Friedman Donze. She's a psychologist and program officer in the Clinical Applications and Prevention Branch of the National Heart, Lung, and Blood Institute (NHLBI).

The research "also opens the door to promoting [anger management](#) interventions as a way to potentially help stave off [heart disease](#), the leading cause of death in this country."

The study was [published](#) May 1 in the *Journal of the American Heart Association* and involved 280 healthy adult New York City residents under the age of 74. The group skewed young—averaging 26 years of age—and had no history of heart disease or major heart risk factors such as hypertension, high cholesterol or diabetes.

All of the participants were monitored for blood vessel changes in their dominant arms, and then asked to engage in very personal eight-minute talks or readings that elicited various emotional states—anger, sadness, anxiety or no heightened emotion at all (the [control group](#)).

Shimbo's group found that healthy blood vessel dilation was inhibited when folks were angry.

This wasn't observed among people in states of either anxiety or sadness, the team noted.

The researchers noted that impaired dilation is often a precursor to a dangerous buildup of fat on artery walls, known as atherosclerosis. That can raise the odds for heart attack and stroke.

"It's these chronic [anger-linked] injuries over time that may eventually cause irreversible effects on vascular health and eventually increase your heart disease risk," Shimbo said in an NHLBI news release.

He said it's not yet clear how anger impairs blood vessel dilation. Perhaps it activates the autonomic nervous system, stress hormones or inflammation of the arteries, Shimbo said. Only further research can reveal exact mechanisms, he added.

Could positive emotional states, like joy or laughter, counter the ill effects of anger on the heart? Further research could elucidate that question, as well.

In the meantime, anger management is always a good idea for mental and [physical health](#), the team said.

Exercise, yoga, deep breathing and [cognitive behavioral therapy](#) (CBT) are all potential pathways to a less rage-filled life, Donze said.

**More information:** Daichi Shimbo et al, Translational Research of the Acute Effects of Negative Emotions on Vascular Endothelial Health:

Findings From a Randomized Controlled Study, *Journal of the American Heart Association* (2024). [DOI: 10.1161/JAHA.123.032698](https://doi.org/10.1161/JAHA.123.032698)

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