

Drinking coffee, having sex are triggers that raise rupture risks for brain aneurysm

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From drinking coffee to having sex to blowing your nose, you could temporarily raise your risk of rupturing a brain aneurysm — and suffering a stroke, according to a study published in *Stroke: Journal of the American Heart Association*.

Dutch researchers identified eight main triggers that appear to increase the risk of intracranial aneurysm (IA), a weakness in the wall of a brain blood vessel that often causes it to balloon. If it ruptures, it can result in a subarachnoid hemorrhage which is a stroke caused by bleeding at the base of the brain. An estimated 2 percent of the general population have IAs, but few rupture.

Calculating population attributable risk — the fraction of subarachnoid hemorrhages that can be attributed to a particular trigger factor — the researchers identified the eight factors and their contribution to the risk as:

- [Coffee](#) consumption (10.6 percent)
- Vigorous physical exercise (7.9 percent)
- Nose blowing (5.4 percent)
- Sexual intercourse (4.3 percent)

- Straining to defecate (3.6 percent)
- Cola consumption (3.5 percent)
- Being startled (2.7 percent)
- Being angry (1.3 percent)

"All of the triggers induce a sudden and short increase in blood pressure, which seems a possible common cause for aneurysmal rupture," said Monique H.M. Vlak, M.D., lead author of the study and a neurologist at the University Medical Center in Utrecht, the Netherlands.

Risk was higher shortly after drinking alcohol, but decreased quickly, researchers said.

"Subarachnoid hemorrhage caused by the rupture of an intracranial aneurysm is a devastating event that often affects young adults," Vlak said. "These trigger factors we found are superimposed on known risk factors, including female gender, age and hypertension."

Few people with IAs have symptoms before such a rupture, such as vomiting, vision problems, loss of consciousness, and especially severe headaches. Many have none. With the increasing use of neuroimaging techniques, more incidental aneurysms are being detected, researchers said.

The researchers sought to identify potential triggers and their level of risk. They asked 250 patients with aneurysmal subarachnoid hemorrhage to complete a questionnaire about exposure to 30 potential trigger factors in the period shortly before their event and their usual frequency and intensity of exposure to these triggers. They then assessed relative risk using a case-crossover design that determines if a specific event was

triggered by something that happened just before it.

Although physical activity had triggering potential, researchers don't advise refraining from it because it's also an important factor in lowering risk of other cardiovascular diseases.

"Reducing caffeine consumption or treating constipated patients with unruptured IAs with laxatives may lower the risk of subarachnoid hemorrhage," Vlaskovits said. "Whether prescribing antihypertensive drugs to patients with unruptured IAs is beneficial in terms of preventing aneurysmal rupture still needs to be further investigated."

The findings were limited by the retrospective design of the study and the average three weeks between subarachnoid hemorrhage and completion of the questionnaire, researchers said. Moreover, specifically asking for exposure in a particular time frame may have been limited by recall bias and including patients in a relatively good clinical condition could have led to survival bias.

Provided by American Heart Association

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