

A minute of secondhand marijuana smoke may damage blood vessels

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A dried flower bud of the Cannabis plant. Credit: Public Domain

Rats' blood vessels took at least three times longer to recover function after only a minute of breathing secondhand marijuana smoke, compared to recovery after a minute of breathing secondhand tobacco smoke, according to new research in *Journal of the American Heart Association*, the Open Access Journal of the American Heart Association/American Stroke Association.

When rats inhaled secondhand marijuana smoke for one minute, their arteries carried blood less efficiently for at least 90 minutes, whereas similar exposure to secondhand [tobacco smoke](#) caused blood vessel impairment that recovered within 30 minutes.

"While the effect is temporary for both cigarette and marijuana smoke, these temporary problems can turn into long-term problems if exposures occur often enough and may increase the chances of developing hardened and clogged arteries," said Matthew Springer, Ph.D., study senior author and professor of medicine at the University of

California, San Francisco's Division of Cardiology.

Blood vessel function was examined in rats before and after exposure to secondhand marijuana smoke at levels similar to real-world secondhand tobacco smoke.

"Arteries of rats and humans are similar in how they respond to secondhand tobacco smoke, so the response of rat arteries to secondhand marijuana smoke is likely to reflect how human arteries might respond," Springer said.

Researchers also found the mere burning of the plant material appears responsible for the impaired [blood vessels](#), not chemicals like nicotine and tetrahydrocannabinol (THC), the psychoactive ingredient in marijuana, nor rolling paper.

"There is widespread belief that, unlike tobacco smoke, marijuana smoke is benign," Springer said. "We in public health have been telling the public to avoid secondhand tobacco smoke for years, but we don't tell them to avoid secondhand marijuana smoke, because until now we haven't had evidence that it can be harmful."

Springer also noted that the increasing number of states legalizing medicinal and recreational marijuana, along with increasing potential for corporate expansion within the cannabis industry, makes it important to understand the health consequences of secondhand [marijuana smoke](#) exposure.

The inhalation of smoke should be avoided, regardless of whether it comes from tobacco, marijuana, or other sources. Inhaling smoke is bad for you—period, researchers said.

Provided by American Heart Association

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