

Wildfires may fuel heart health hazards: Smoke exposure increases cardiovascular risks

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Smoky haze over New York, NY. Credit: American Heart Association

As wildfires spread across southern Canada, smoke from those fires is rapidly drifting into the U.S. The American Heart Association, the world's leading voluntary organization focused on heart and brain health for all, warns that wildfire smoke exposure poses an increased risk for heart disease in both the short and long term.

"Most people think of breathing problems and respiratory health dangers from wildfire smoke, but it's important to recognize the impact on cardiovascular health, as well," said Comilla Sasson, M.D., Ph.D., FAHA, vice president for science and innovation at the American Heart Association and a practicing emergency medicine physician. "Wildfire smoke contains a lot of pollutants including fine, [microscopic particles](#) linked to [cardiovascular risk](#). As many of these fires burn out of control and that contaminated smoke is traveling many miles beyond the immediately affected area."

Several studies following wildfires in California in recent years linked smoke exposure to an increased risk of sudden cardiac arrest and a higher volume of visits to local emergency rooms for cardiovascular disease-related causes.

A study published in the [Journal of the American Heart Association](#) in 2020 found that exposure to heavy smoke during wildfires raised the risk of out-of-hospital cardiac arrests up to 70%. The risk was elevated among men and women, among adults 35-64 years old and in communities with lower socioeconomic status.

Previous findings from the same research group noted that wildfire smoke exposure was associated with increased rates of emergency room visits, not just for breathing trouble, but also ischemic heart disease, irregular heart rhythm, heart failure, pulmonary embolism and stroke. ER visits increased 42% for heart attacks and 22% for ischemic heart disease within a day of exposure to dense wildfire smoke. The increase

was most notable for adults age 65 and older, according to the study published in the [*Journal of the American Heart Association*](#) in 2018.

People with underlying cardiovascular disease risk factors may be at risk for an acute cardiovascular event when exposed to wildfire smoke. According to the American Heart Association, recognizing the signs of a [heart attack](#) or stroke are important, and if you or someone you're with is experiencing serious symptoms, call 9-1-1 immediately. Knowing and performing CPR in the event of a cardiac arrest is also helpful.

The U.S. Environmental Protection Agency offers a ZIP code-level tracking map of current air quality at [airnow.gov](#). Sasson recommends checking that site regularly if you're seeing signs of wildfire smoke and haze developing where you live. It's also important to stay informed about any special alerts sent out by your local health department.



Smoky haze over the Hudson River. Credit: American Heart Association

Sasson offers the following tips for reducing exposure to wildfire smoke:

- Stay indoors with doors and windows closed.
- Use high-efficiency air filters in air conditioning systems or portable air cleaners.
- Avoid exertion.
- Keep well hydrated.
- Consider seeking other shelter if your home does not have an air conditioner and it's too warm to stay inside.

- Be mindful that your pets may also be affected by the smoke and bring them indoors, as well.

"While these types of wildfires and the extent of their smoke reach can't always be predicted, protecting yourself and your family from poor air quality throughout the year is something to consider," Sasson said. "In the American Heart Association's 2020 [scientific statement on air pollution exposure](#), we note that one of the most effective measures is the use of portable air cleaners, which have been shown to reduce indoor particulate matter by as much as 50-60%. Given their modest upfront cost (\$50-200) and potential benefits in reducing cardiopulmonary outcomes, this measure has a high benefit for the cost."

Sasson said while most people in the U.S. are not directly impacted by the physical wildfires burning in Canada, the exposure to this lingering smoke can be extremely harmful and shouldn't be taken for granted. "Protect yourself, be alert and prepared," she said.

More information: The American Heart Association has resources to help at www.heart.org.

Provided by American Heart Association

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