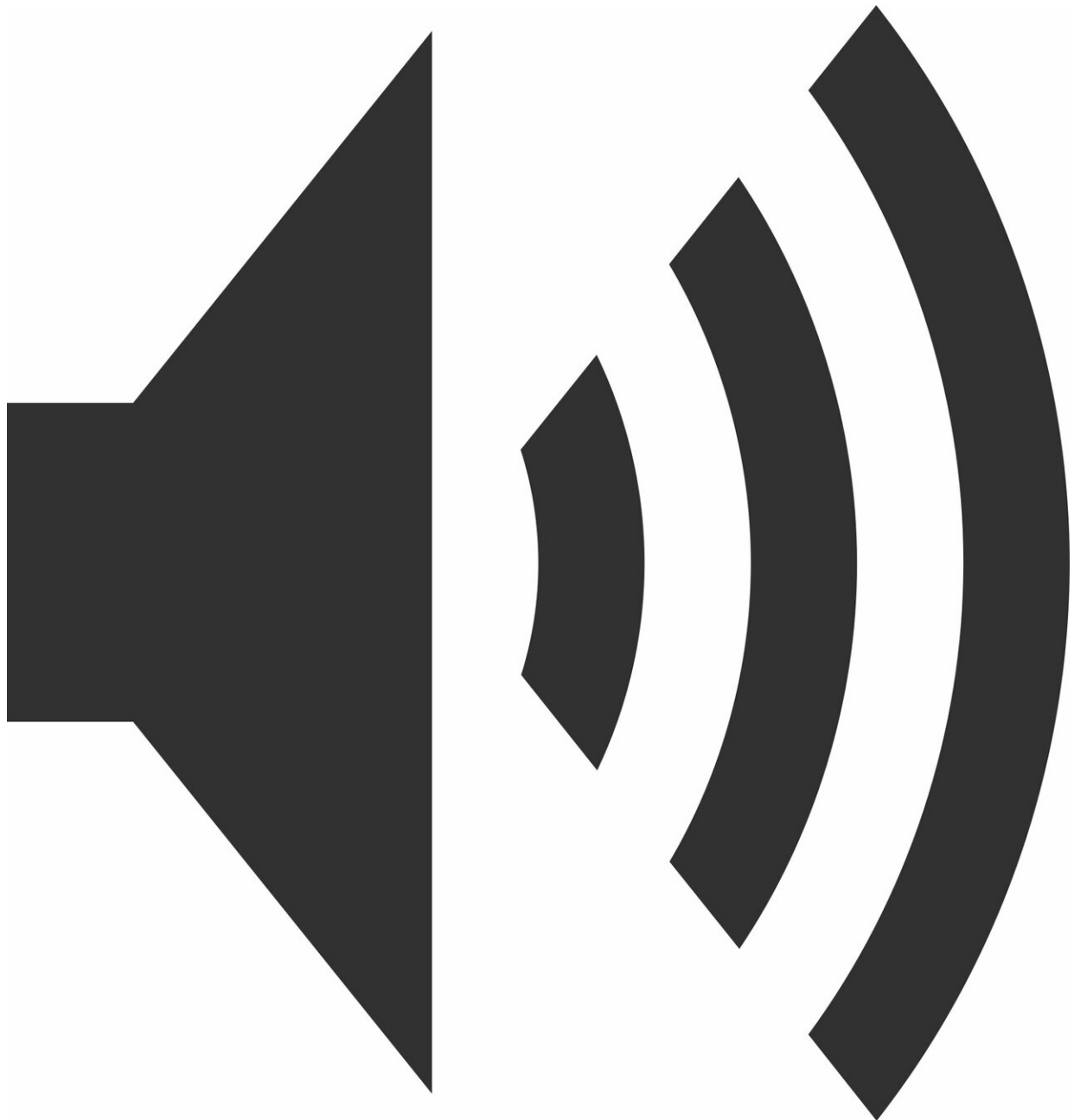


Insights into why loud noise is bad for your health

April 27 2020



Credit: CC0 Public Domain

Whether it is loud machinery at work, a busy freeway or a nearby airport, many people are exposed to high levels of noise. Two new mouse studies provide new insight into how this type of noise exposure can lead to high blood pressure and cancer-related DNA damage.

"Large studies have linked noise exposure to [health problems](#) in people," said Matthias Oelze, Ph.D., a postdoctoral fellow at the University Medical Center of Mainz in Germany. "Our new data provides additional mechanistic insights into these [adverse health effects](#), especially high blood pressure and potentially cancer development, both leading causes of global death."

Oelze was scheduled to present this research at the American Society for Biochemistry and Molecular Biology [annual meeting](#) in San Diego this month. Though the meeting, to be held in conjunction with the 2020 Experimental Biology conference, was canceled in response to the COVID-19 outbreak, the research team's abstract was published in this month's issue of *The FASEB Journal*.

"These new findings, together with our other work on noise-associated cardiovascular effects, could lead to a better understanding of how noise influences health," said Oelze. "This information could help inform policies and regulations that better protect people against diseases related to noise exposure."

Oelze and colleagues found that healthy mice exposed to four days of aircraft noise were more likely to develop high blood pressure. For mice

with pre-established [high blood pressure](#), this noise exposure aggravated heart damage because of a synergistic increase of oxidative stress and inflammation in the cardiovascular and neuronal systems.

In another study, the researchers observed that the same noise exposure induced oxidative DNA damage in mice. This damage led to a highly mutagenic DNA lesion that was previously associated with the development of cancer in other settings.

The researchers are currently conducting several studies on the health effects of noise, including interactions of pre-established cardiovascular diseases with noise as well as behavioral effects of [noise exposure](#) in mice.

Provided by Experimental Biology

Citation: Insights into why loud noise is bad for your health (2020, April 27) retrieved 18 April 2024 from <https://medicalxpress.com/news/2020-04-insights-loud-noise-bad-health.html>

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