

Long term exposure to aircraft noise linked to high blood pressure

Night-time noise may be particularly influential, findings suggest

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Summary: Long term exposure to aircraft noise, particularly during the night, is linked to an increased risk of developing high blood pressure and possibly heart flutter and stroke as well, suggests research.

Long term exposure to aircraft noise, particularly during the night, is linked to an increased risk of developing high blood pressure and possibly heart flutter and stroke as well, suggests research published online in *Occupational & Environmental Medicine*.

The research team drew on data from 420 people living near Athens International Airport in Greece, where up to 600 planes take off and land every day.

They formed one of six groups of people living near six large European airports who had taken part in the HYENA study, which assessed the potential health impacts of aircraft noise in 2004-6.

The aircraft and road traffic noise exposure levels estimated for their postcodes at that time -- less than 50 decibels to more than 60 dB -- were used for the current study in 2013.

Daytime aircraft noise was defined as that occurring between 0700 and 2300 hours, and that occurring between 2300 and 0700 hours was defined as night-time aircraft noise.

Around half of the participants (just under 49%) were exposed to more than 55 dB of daytime aircraft noise, while around one in four (just over 27%) were exposed to more than 45 dB of night-time aircraft noise. Only around one in 10 (11%) were exposed to significant road traffic noise of more than 55 dB.

Between 2004-6 and 2013, 71 people were newly diagnosed with high blood pressure and 44 were diagnosed with heart flutter (cardiac arrhythmia). A further 18 had a heart attack.

Exposure to aircraft noise, particularly at night, was associated with all cases of high blood pressure, and with new cases.

When all cases of high blood pressure were included, every additional 10 dB of night-time aircraft noise was associated with a 69% heightened risk of the condition. When only new cases were included, every additional 10 dB was associated with a more than doubling in risk.

Exposure to night-time aircraft noise was also associated with a doubling in risk of heart flutter diagnosed by a doctor, but this only reached statistical significance when all cases, not just new ones, were included in the calculations.

A heightened risk of stroke was similarly linked to increasing aircraft noise exposure, but this was not statistically significant, possibly because of the small number of cases involved, suggest the researchers.

The associations between road traffic noise and ill health were much weaker and less consistent, the findings showed.

This is one of the first long term follow-up studies of aircraft noise so it's not possible to draw conclusions about cause and effect at this stage until more evidence/studies become available, say the researchers.

They point out that they were unable to look at specific causes of death among the 78 people who died between 2004-6 and 2013. The numbers studied were also relatively small, and it wasn't possible to account for the potential effects of air pollution.

Nevertheless, a growing body of evidence links noise exposure to ill health, they emphasize.

Story Source: Materials provided by [BMJ](#). Note: Content may be edited for style and length.

Journal Reference:

1. Anne-Sophie Evrard, Marie Lefèvre, Patricia Champelovier, Jacques Lambert, Bernard Laumon. Does aircraft noise exposure increase the risk of hypertension in the population living near airports in France? *Occupational and Environmental Medicine*, 2017; 74 (2): 123 DOI: [10.1136/oemed-2016-103648](https://doi.org/10.1136/oemed-2016-103648)

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