

Night-time noise from aircraft or traffic raises blood pressure even while people sleep, a study suggests.

Researchers monitored 140 sleeping volunteers in their homes near Heathrow and three other big European airports.

Volunteers' blood pressure increased after exposure to a noise louder than 35 decibels - whether it came from overhead aircraft, or snoring.

In response to the European Heart Journal study, the UK government said noise at Heathrow was improving.

Also, night-time flights at the London airport were strictly controlled the Department for Transport said.

"However, we are aware of people's concerns which is why the government has set out strict local noise conditions on expansion at Heathrow," a spokesman added.

Restrictions apply at Heathrow between 11pm and 7am.

Blood pressure

The researchers measured the volunteers' blood pressure remotely at 15-minute intervals.

Aircraft noise caused an average increase in systolic blood pressure of 6.2 mmHg and an average increase in diastolic blood pressure of 7.4 mmHg.

Similar increases in blood pressure were seen also for other noise sources such as road traffic.

One resident who lives near Heathrow, Margaret Thorburn, told the BBC how noise due to the airport affected her.

There was "no point" trying to sleep before 11pm, she said.

"And that's standard because background noise has died down and any aircraft that goes over when everything else is quiet you notice an awful lot more and it's disturbing in a particular way," she said.

"If it's in the summer when the windows are open then you're going to wake up... and what's more you don't go back to sleep because you're waiting for the next one to come over."

Louder noises worse

The study also found the louder the noise, the greater the increase in blood pressure.

For every five decibel increase in aircraft noise at its loudest point, there was an increase of 0.66 mmHg in systolic blood pressure.

The researchers had previously shown that people who have been living for at least five years under a flight path near an international airport are at greater risk of developing high blood pressure than people living in quieter areas.

Taken together, the two studies suggest that living under a flight path could almost double the risk of hypertension.

The researchers have calculated that for every extra 10 decibels of aircraft noise the risk of hypertension is increased by 14%.

The mechanism by which aircraft noise acts to raise blood pressure is unknown, but the researchers plan further tests to examine the theory that the brain reacts to noise by ramping up levels of the stress hormone cortisol.

Researcher Dr Lars Jarup, from Imperial College London, said: "We know that noise from air traffic can be a source of irritation, but our research shows that it can also be damaging for people's health - which is particularly significant in light of plans to expand international airports."

Ellen Mason, a cardiac nurse at the British Heart Foundation, said: "Noise pollution may be the latest in a long line of issues that the airline industry needs to tackle."

But she added: "High blood pressure is far more likely to be influenced by the fact that many of us eat far too much salt, don't take enough exercise and are fast becoming overweight."

Professor Graham McGregor, an expert in blood pressure, said the study was interesting, but more work would have to be done to confirm the link.

He said people who lived close to airports tended to be poor, and high blood pressure was associated with poverty.

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Noise under a flight path can be a major problem

“ Measures need to be taken to reduce noise levels from aircraft, in particular during night-time, in order to protect the health of people living near airports ”

Dr Lars Jarup
Imperial College London

HIGH BLOOD PRESSURE

- Associated with a raised risk of heart disease, stroke, kidney disease and dementia
- Defined by World Health Organisation as being 140/90mmHg or more