

# Growing evidence that noise is bad for your health

October 22 2018, by Stephen Stansfeld

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Road, rail and aircraft – now wind turbine and leisure added as overly noisy sources. Credit: Tramper79/Shutterstock

The World Health Organisation recently published its latest noise pollution [guidelines](#) for Europe. The guidelines recommend outdoor

noise levels that should not be exceeded for aircraft, road and rail noise and two new sources: wind turbine and leisure noise.

The aim of the guidelines is to recommend [environmental noise](#) exposure levels to protect human [health](#) from noise. The basis of the guidelines, which I helped to produce, is a series of eight systematic reviews of the published scientific [evidence](#). A further review considered the effectiveness of interventions to reduce noise and improve health.

The reviews covered important health outcomes, such as coronary heart disease, high blood pressure, annoyance, sleep disturbance and children's learning and hearing impairment. Other topics reviewed include mental health and quality of life, metabolic syndrome (including diabetes) and adverse birth outcomes. These were considered less important only because the research evidence for [health effects](#) – such as problems with birth – is much weaker, or the research is new and incomplete, such as associations with metabolic syndrome.

These recent studies find that exposure to road traffic noise is associated with an increased risk of [abdominal obesity and diabetes](#). Both these health outcomes could be a consequence of exposure to prolonged stress – as a result, for example, of chronic noise. They add to the understanding of how environmental noise affects the body. There is now strong evidence that [road traffic noise](#) exposure is associated with an [increased risk of heart attack](#).

## **Surround sound**

New sources of noise covered by the guidelines include wind turbine noise and leisure noise (for example from nightclubs, pubs, fitness classes, live sporting events, concerts or live music venues and listening to loud music through headphones).

The health evidence for wind turbine noise is scanty. There is evidence that they cause annoyance, but the findings on sleep disturbance are [inconclusive](#). There is no convincing evidence of more serious health effects, but the quality of most of the studies is poor. Assessment of the effects for wind turbines is complex because many other factors need to be considered, such as their visual appearance and low-frequency noise.

The limits for leisure noise are based on cumulative [exposure](#) from all sources, [across the year](#). A big unknown is whether prolonged listening to loud music through headphones can lead to tinnitus (ringing in the ears) and hearing loss, so we need long-term studies to explore this further.

Although the new Environmental Noise Guidelines were prepared for Europe, they are suitable for worldwide use. They provide useful information for policymakers in local and central governments about the potential health effects from noise in their populations and should shape interventions to reduce [noise](#) and improve health.

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