

Noise nuisance, how it affects us and what can we do about it

Most people are affected by noise exposure more than any other environmental stimulus. The most widespread problem created by noise is nuisance, but recent research has linked noise as a stressor which can produce a range of serious health effects.

There is good evidence to suggest that environmental noise affects us in the following areas:

- Annoyance and quality of life
- Sleep disturbance
- Psychosocial wellbeing
- Cardiovascular disease

Annoyance & quality of life

Noise is a subjective experience and feelings of annoyance are profoundly affected by personal attitudes and beliefs, including attitudes to the source of the noise and to the environment in which it is heard. It is because noise is commonly perceived to be an avoidable form of harm and an intrusion into personal privacy that it creates such unhappiness. According to the London Health Organisation, road traffic is the largest single cause of noise pollution in London. Transport noise is associated with productivity losses caused by an inability to concentrate at work and tiredness caused by disturbed sleep.

Sleep disturbance

Insomnia and sleep disturbance caused by noise can affect the quality and quantity of sleep. Difficulty falling asleep, awakenings and alterations of sleep stages or depth, especially a reduction in the proportion of REM-sleep (REM = Rapid Eye Movement) are examples. It has been found that road traffic noise in excess of just 30dB is enough to induce sleep disturbance.

Psychosocial wellbeing

Insomnia and broken sleep are unpleasant experiences in themselves but also lead to secondary effects such as perceived sleep quality, increased fatigue, drowsiness, lower mood and poor performance the next day. Various studies have shown that people living in areas exposed to night-time noise have an increased use of sedatives or sleeping pills. Other frequently reported behavioural effects of night-time noise include the use of personal hearing protection.

Cardiovascular disease

Exposure to noise during sleep has been linked to a number of physiological effects: increased blood pressure, increased heart rate, changes in respiration, cardiac arrhythmia and an increase in body movements. Noise probably affects the cardiovascular system through the stimulation of hormones such as cortisol, noradrenaline and adrenaline. Although there is little research in this area the results are good enough to establish a credible link.

If noise is disturbing your sleep, the key to a better night's sleep is to fall asleep quickly. To achieve this, it may be helpful to use good quality ear plugs with a high NRR (Noise Reduction Rating) to help you on your way.

A guide to noise levels - dB (decibel level)

Normal conversation	50-60dB
Snoring	50-95dB
Loud radio	65-75dB
Busy street	78-85dB
Heavy lorry	95-100dB
Chain saw	115-120dB
Jet taking off	140dB



A guide to noise threshold levels - effects on sleep

To avoid negative effects	30dB
Changes to sleep stages	35dB
Increase in heart rate	40dB
Subjective reports on sleep quality	40dB
Mood next day	60dB
Waking during the night	60dB



A guide to noise threshold levels - stress related health effects

Performance	55dB
Cardiovascular effects	65dB
Hypertension	70dB
Ischaemic heart disease	70dB
Hearing loss	70dB



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