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[Eur Heart J](#). 2011 Mar;32(6):737-44. doi: 10.1093/eurheartj/ehq466. Epub 2011 Jan 25.

Road traffic noise and stroke: a prospective cohort study

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Abstract

Aims: Epidemiological studies suggest that long-term exposure to road traffic noise increases the risk of cardiovascular disorders. The aim of this study was to investigate the relation between exposure to road traffic noise and risk for stroke, which has not been studied before.

Methods and results: In a population-based cohort of 57,053 people, we identified 1881 cases of first-ever stroke in a national hospital register between 1993-1997 and 2006. Exposure to road traffic noise and air pollution during the same period was estimated for all cohort members from residential address history. Associations between exposure to road traffic noise and stroke incidence were analysed in a Cox regression model with stratification for gender and calendar-year and adjustment for air pollution and other potential confounders. We found an incidence rate ratio (IRR) of 1.14 for stroke [95% confidence interval (CI): 1.03-1.25] per 10 dB higher level of road traffic noise (L_{den}). There was a statistically significant interaction with age ($P < 0.001$), with a strong association between road traffic noise and stroke among cases over 64.5 years (IRR: 1.27; 95% CI: 1.13-1.43) and no association for those under 64.5 years (IRR: 1.02; 95% CI: 0.91-1.14).

Conclusion: Exposure to residential road traffic noise was associated with a higher risk for stroke among people older than 64.5 years of age.

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