

Exposure to nocturnal road traffic noise: Sleep disturbance its after effects

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In this paper the disturbances to sleep caused by road traffic noise are reviewed in the light of the latest published findings. First, a short presentation is made of what noise is in general. Then an exposition is made of the different characteristics of road traffic noise and how it may be measured and rated with various descriptors. In general terms, the continuous exposure of people to road traffic noise leads to suffering various kinds of discomfort, thereby reducing the number of well-being elements. However, this conclusion is made more complex to attain when non-acoustical factors such as socio-economic situation, age and gender are taken into account. In broad terms, nocturnal road traffic activity leads to difficulties in falling asleep for people and to a reduction of their sleep quality. This, however, depends strongly on physical measures of noise like for instance the intermittency of loud single noise events, their level relative to that of the background noise and the frequency and time of their occurrence. Several studies have also confirmed the fact that mood, too, is strongly affected after spending a night with significant noise exposure. Other psychological and physiological functions affected by night-time exposure to road traffic noise, such as performance the following day and cardiovascular reactivity are also reviewed.