

## OCCUPATIONAL & ENVIRONMENTAL MEDICINE

### Professional musicians run almost fourfold risk of noise induced deafness

*And they are 57% more likely to have tinnitus than general public*

[Incidence and relative risk of hearing disorders in professional musicians *Occup Environ Med*  
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Professional musicians are almost four times as likely to develop noise induced hearing loss as the general public, reveals research published online in ***Occupational & Environmental Medicine***. And they are 57% more likely to develop tinnitus - incessant ringing in the ears - as a result of their job, the findings show.

Noise induced hearing loss can be caused by sudden very loud noise, such as an explosion or gunfire, but it may also develop gradually as a result of repeated exposure to loud noise, suggest the study authors. They base their findings on data from three statutory health insurance providers containing the details of seven million German citizens between 2004 and 2008. Among the three million people who were aged between 19 and 66, in employment, and making social insurance contributions to cover health and social care, some 2227 were professional musicians. During the four year study period, just under 284,000 cases of hearing loss were registered on the database, slightly more of them among men than women, overall.

In all, 238 (0.08%) cases were among professional musicians, who were more likely to live in cities. Hearing loss becomes more common with age, but after adjusting for this and other influential factors, such as sex and population density, professional musicians were still more likely to have noise induced hearing loss than the general public. They were almost four times as likely to have some level of deafness and 57% more likely to have tinnitus.

The authors point out that repeated long term exposure to industrial noise has been clearly linked to hearing damage, including an inability to hear the full range of sound. But published evidence suggests that long term exposure to music has the opposite effect and increases hearing sensitivity. "Our data suggest that in professional musicians the risks of music induced hearing loss outweigh the potential benefits for hearing ability, as reported by [other researchers]," write the authors. "Given the number of professional musicians and the severity of the outcome, leading to occupational disability and severe loss of quality of life, hearing loss in [this group] is of high public health importance," they add.

Professional musicians should be given protective in-ear devices, whether they are playing in rock bands or orchestras, and whenever sound amplifiers are used, in a bid to reduce the risk, they suggest. Sound shields should also be installed between different sections of an orchestra.