

Prolonged mobile phone use may be linked to tinnitus

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Regularly using a mobile phone for at least four years seems to be associated with a doubling in the risk of developing chronic tinnitus (persistent ringing/roaring/hissing in the ear), indicates a small study published online in *Occupational and Environmental Medicine*.

The prevalence of chronic tinnitus is increasing, and is currently around 10 to 15% in the developed world, say the authors. There are currently few treatment options.

And while there are some obvious triggers, such as ear disorders and head trauma, there are few known risk factors or clear explanations for this trend. The high microwave energy produced by mobile phones during use has been suggested as a possible culprit, but there has been no hard evidence to date.

The authors compared 100 patients who required treatment for chronic tinnitus, defined as lasting at least three months, with 100 randomly selected people without the disorder, but matched for age and sex, over a period of a year (2003-4).

Any patient with ear disease, noise induced impaired hearing, [high blood pressure](#), or who was on medication known to boost the risk of tinnitus was excluded from the study.

All participants were then quizzed about the type of phone they used, and where, as mobile phone output tends to be stronger in rural areas.

They were also asked about the intensity and duration of calls, ear preference, and use of hand held devices.

Most tinnitus was one sided, with the left side accounting for 38 cases. A similar number of patients described it as distressing 'most of the time.' More than one in four (29%) also had associated vertigo.

Virtually all the participants were mobile users, but only 84 patients and 78 in the comparison group were using a mobile when symptoms first appeared. Some 17 patients and 12 of their peers had been using a mobile for less than a year at that time.

Analysis of the results showed that the patients who had used a mobile before the onset of tinnitus were 37% more likely to have the condition than those in the comparison group. Those who used their mobiles for an average of 10 minutes a day were 71% more likely to have the condition.

Most people used their phones on both ears, and those who had used a mobile for four years or more were twice as likely to have tinnitus compared with those in the comparison group.

The authors accept that people are likely to over/underestimate their mobile phone usage and the length of calls. But they caution:

"Considering all potential biases and confounders, it is unlikely that the increased risk of tinnitus from prolonged [mobile phone](#) use obtained in this study is spurious."

They suggest that there is a plausible explanation for a potential link between mobile phones and [tinnitus](#) as the cochlea and the auditory pathway directly absorb a considerable amount of energy emitted by a mobile.

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