

Tinnitus: perspectives from human neuroimaging

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Publisher: Nature Research
In: Nature Reviews Neuroscience 2015, Volume 16, Issue 10, p. 632-342;
published online: 6 September 2015
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Abstract:

Tinnitus is the perception of phantom sound in the absence of a corresponding external source. It is a highly prevalent disorder, and most cases are caused by cochlear injury that leads to peripheral deafferentation, which results in adaptive changes in the CNS. But still, the neurological mechanisms of tinnitus remain incompletely understood.

In this article Elgoyhen et al. critically assess the recent neuroimaging studies in individuals with tinnitus that suggest that the disorder is accompanied by functional and structural brain abnormalities in distributed auditory and non-auditory brain regions. Moreover, the authors suggest ways to improve future research into the disorder by considering how the identification of the neuronal mechanisms underlying the different forms of tinnitus would benefit from larger studies, replication and comprehensive clinical assessment of patients.

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