

## Tinnitus

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Tinnitus, Εμβοές ὠτων ἢ Βουϊτὰ στ'αυτιά. Tinnitus is the perception of sound in the absence of an external sound, is a frequent disorder of auditory perception, which is very difficult to treat [1].

Tinnitus as a phantom perception of a meaningless sound has to be differentiated from auditory hallucinations which mainly occur in the context of psychiatric diseases and are characterized by e.g. the perception of voices. About 10–20% of the adult population experiences some degree of tinnitus. Many learn to ignore the sounds and experience no major effects, but for about 1 in 100 adults, the noise interferes significantly with daily life [2]. In those patients, tinnitus is frequently associated with neuropsychiatric co-morbidity such as depression, anxiety or sleep disorders [3], [4], which underlines the clinical and socio-economic importance.

It has been demonstrated that tinnitus is much more frequent among subjective electromagnetic hypersensitive patients whereas there is no hint for a relationship between tinnitus and exposure to electromagnetic fields. Rather, the correlation between tinnitus and electromagnetic hypersensitivity might be due to an individual vulnerability.

Neurobiological characteristics of this increased vulnerability such as an oversensitive cortical distress network and an impaired discrimination ability for electromagnetically evoked sensory stimuli might be involved in the pathophysiology of both tinnitus and electromagnetic hypersensitivity and possibly also in other related perception disorders.

Nevertheless, this hypothesis derived from our epidemiological study has to be confirmed in further studies by e.g. intervention studies aiming for a normalization of the postulated over-activated distress network in subjectively electromagnetic hypersensitive (e.g. cognitive behavioral therapy, which has been shown to be successful in electromagnetic hypersensitivity [5] and tinnitus patients).

### References

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