

# **Antiepileptics**

Туре	Safety	Efficacy	Recommended?
	2	3	$\bigotimes$
Pharmaceutical	Some potential for harm	Evidence that they have no effect	No

In detail:		
Claims for treatment	That antiepileptics potentially reduce central auditory hyperactivity that may be related to tinnitus <sup>1</sup> .	
What is the treatment?	Antiepileptics are taken in pill or capsule form.	
What are the downsides of this treatment?	Common side effects from clinical trials included nausea, dizziness, headache, tiredness <sup>2</sup> .	
Has there been research into this treatment?	Seven in the Cochrane review <sup>2</sup> . Eight RCTs considered by the Clinical Practice Guideline <sup>1</sup> .	
What drugs are mentioned in the literature?	Gabapentin <sup>3 4</sup> ; amino-oxyacetic acid <sup>5</sup> ; lamotrigine (Lamictal) <sup>6</sup> ; carbamazepine (Tegretol) <sup>7 8</sup> ; flunarizine (Sibelium) <sup>9</sup> .	

Tinnitus UK try very hard to make sure our information is right, but this information should not be taken as medical advice. You should always check with your doctor before trying any tinnitus treatment.

What does the research say?	There is no evidence to show that antiepileptics have a large positive effect in the treatment of tinnitus².  Carbamazepine and oxcarbazepine are not more effective than placebo in decreasing tinnitus severity¹0.  Use of these drugs for epilepsy may result in tinnitus and other auditory dysfunctions¹¹.	
How high quality is the research?*	A	
Tinnitus UK's opinion on this treatment:	There is no evidence to show that antiepileptics have an impact on tinnitus.  Side effects were experienced by 18% of patients in the trials reviewed¹.	
Would Tinnitus UK support further studies into this treatment?	Yes, provided study is of high quality.	
Comments	Studies seldom used appropriate outcome measures and had high risk of bias.	

<sup>\*</sup> A = Systematic review/meta analysis. B = Randomised control studies. C = Cohort studies. D = Case control studies. E = case studies/reports. +/- to be used to indicate quality within bands

## For further information

The Tinnitus UK Tinnitus Support Team can answer your questions on any tinnitus related topics:

Telephone 0800 018 0527
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We also offer a free tinnitus e-learning programme, Take on Tinnitus at **takeontinnitus.co.uk** 

## References

All online references accessed 1 November 2022 unless noted.

- 1. Tunkel DE, Bauer CA, Sun GH, et al. Clinical Practice Guideline: Tinnitus. Otolaryngology–Head and Neck Surgery. (2014) 151(2\_suppl): S1-S40. doi:10.1177/0194599814545325
- 2. Hoekstra CEL, Rynja SP, van Zanten GA, Rovers MM. Anticonvulsants for tinnitus. *Cochrane Database of Systematic Reviews* (2011) Issue 7. Art. No.: CD007960. DOI: 10.1002/14651858. CD007960.pub2.

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- 3. Bakhshaee M, Ghasemi M, Azarpazhooh M, Khadivi E, Rezaei S, Shakeri M, et al. Gabapentin effectiveness on the sensation of subjective idiopathic tinnitus: a pilot study. *European Archives of Oto-Rhino-Laryngology* (2007) 265(5):525-30.
- 4. Dehkordi, MA, Abolbashari, S, Taheri, R, Einolghozati, S. Efficacy of gabapentin on subjective idiopathic tinnitus: a randomized, double-blind, placebocontrolled trial. *Ear Nose Throat Journal*. (2011) 90:150-158.
- 5. Reed HT, Meltzer J, Crews P, Norris CH, Quine DB. Guth PS. Amino oxyacetic acid as a palliative in tinnitus. *Archives of Otolaryngology*. (1985) 111: 803-805
- 6. Simpson JJ, Gilbert AM, Weiner GM, Davies WW. The assessment of lamotrigine, an antiepileptic drug, in the treatment of tinnitus. *American Journal of Otology* (1999) 20:627-31.
- 7. Donaldson I. Tegretol: a double blind trial in tinnitus. *Journal of Laryngology and Otology.* (1981) 95: 947-951
- 8. Hulshof JH, Vermeij P. The value of carbamazepine in the treatment of tinnitus. *ORL: Journal of Oto-Rhino-Laryngology and Its Related Specialties* (1985) 47:262-6
- 9. Hulshof JH, Vermeij P. The value of flunarizine in the treatment of tinnitus. *ORL: Journal of Oto-Rhino-Laryngology and Its Related Specialties* (1986) 48:33-6.

- 10. Gerami H, Saberi A, Nemati S, Kazemnejad E, Aghajanpour M. Effects of oxcarbazepine versus carbamazepine on tinnitus: A randomized double-blind placebo-controlled clinical trial. *Iranian Journal of Neurology*. (2012) 11(3):106–110.
- 11. Sherifa A Hamed (2017) The auditory and vestibular toxicities induced by antiepileptic drugs, *Expert Opinion on Drug Safety*, 16:11, 1281-1294, DOI: 10.1080/14740338.2017.1372420

### **Feedback**

We welcome feedback on all our information.

You can pass your comments to our Communications Team by calling us on **0114 250 9933**, emailing **communications@tinnitus.org.uk** or by writing to us at the address below.

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