Background: In Germany alone approximately 340 000 people are affected by chronic tinnitus. Chronic tinnitus, i.e. permanent and constant symptoms for at least 3 months cannot be cured by medicines. Psychotherapeutic treatment however is standard practice in order to reduce subjective annoyance due to chronic tinnitus.

Patient and Method: The following case study investigates the therapeutic effects of neurofeedback-based alpha training on a 56-year-old female tinnitus patient. At the beginning of the therapy the patient suffered from preoccupation with the core tinnitus symptom, difficulties in relaxation and sleeping, episodes of anxiety and depressive moods, i.e. from symptoms often experienced by chronic tinnitus patients. The therapy was performed on an out-patient basis and included thorough counselling and 15 sessions of neurofeedback-based alpha training within 4 weeks.

Results: At discharge from therapy, the patient was capable of promoting her alpha activity and reducing her physiological arousal. The favourable course of the therapy becomes particularly obvious in the reduction of the subjective tinnitus annoyance. A significant reduction in stress due to the ear noise was achieved by the end of the therapy and could still be maintained at 6-month follow-up.

Conclusion: The results indicate that neurofeedback represents a new promising technique in the therapy of chronic tinnitus and deserves further research efforts.