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## Combining Repetitive Transcranial Magnetic Stimulation and Cognitive Behavioral Therapy for Effective Treatment of Tinnitus and Insomnia - A Case Report

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### Objective

We present the case of a 53-year-old male patient, who had been suffering from symptoms of decompensated and chronified tinnitus for four years, most likely caused by work stress. In addition, the patient developed comorbid decompensated insomnia. Because of potential bidirectional connections between tinnitus and sleep disorders, an interdisciplinary approach to treatment was chosen.

### Methods

The treatment plan we developed consisted of ten sessions of repetitive transcranial magnetic stimulation (rTMS) for tinnitus, followed by ten sessions of cognitive behavioral therapy (CBT) for tinnitus and insomnia. We used the Tinnitus Questionnaire (TF) to assess tinnitus severity, the Beck Depression Inventory (BDI-II) for depressive symptoms, as well as the WHO Well-being Index (WHO-5) for subjective well-being.

### Results

Improvements were achieved with regard to everyday functioning, as the patient went from decompensated and severe to clinically negligible TF scores, from minimal to no depressive symptoms, and from just above critical to above average well-being. Combining equipment-based and psychological approaches to treatment proved to be successful in this case.

### Conclusions

We conclude that a combination of rTMS and CBT may be considered as an effective treatment for chronic tinnitus and comorbid sleep disorders.

### References:

- 1 Richter, K. *et al.* Management of Chronic Tinnitus and Insomnia with Repetitive Transcranial Magnetic Stimulation and Cognitive Behavioral Therapy—a Combined Approach. *Front Psychol* **8**, doi:10.3389/fpsyg.2017.00575 (2017).