

# Tinnitus retraining therapy using portable music players.

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**OBJECTIVE:** We aimed to perform acoustic analysis of environmental sounds used in sound therapy for tinnitus retraining therapy (TRT) and to evaluate the efficacy of TRT performed by using a portable music player (PMP) with recorded environmental sounds as the sound generator. **METHODS:** Acoustic analysis of environmental sounds was performed using a sound analyzer. The subjects were 23 patients with chronic tinnitus. Patients who had bilateral hearing loss and required hearing assistance were fitted with hearing aids (HAs). Patients with normal hearing or unilateral hearing loss were fitted with a tinnitus control instrument (TCI) or a PMP. The patients were divided into the PMP group, TCI group, and HA group. All subjects underwent audiometric evaluations prior to TRT and completed the tinnitus handicap inventory (THI). The THI scores were evaluated before treatment and 1 month, 3 months, 6 months, and 12 months after treatment. **RESULTS:** The sound spectrogram of the murmur of a stream showed a wide-frequency band with a constant strength, whereas that of a wave sound showed a wide-frequency band with variable strength. The THI score clearly decreased after 1 month, and this decrease tended to continue over 12 months. The TRT efficacy ratios in the PMP group, TCI group, and HA group at 12 months after treatment were 71%, 67%, and 70%, respectively. **CONCLUSIONS:** TRT using a PMP had efficacy similar to those of TCI and HA. The murmur of a stream was one of the most effective sounds in TRT. TRT using a PMP as the sound generator can provide the most cost-effective treatment option for tinnitus patients.

Auris Nasus Larynx. 2011 May 19. Fukuda S, Miyashita T, Inamoto R, Mori N. Department of Otolaryngology, Faculty of Medicine, Kagawa University, Kagawa 761-0793, Japan.

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