

Acoustic Measurement of the Eustachian Tube Function

Prototype Device for Testing the Eustachian Tube Function



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Introduction

Under normal conditions the Eustachian tube opens in the act of swallowing or yawning [1]. In all the standard examination methods the change in the pressure in the epipharynx helps the opening of the Eustachian tube. [4]

Results

In our tests we have proven the normal function of the Eustachian tube.

Reference

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2. Einsatz neuer akustischer Signale zur Tubenfunktionsuntersuchung. EF Di Martino, C Antweiler, A Kellner, M Westhofen Laryngo-Rhino-Otol 2004; 83 - 11_9.
3. Synchronous Endoscopy and Sonotubometry of the Eustachian Tube: A Pilot Study. Ophir Handzel, Dennis Poe, Robert Marchbanks, Otology&Neurotology 00:00-00 2012
4. Funktionsuntersuchungen der Tuba Eustachii. E. Di Martino R. Thaden G. A. Krombach M. Westhofen HNO 2004; 52:1039-1040.

Methods

We have created a prototype device for acoustic measurement of the Eustachian tube function. It has the following principle of work:
In the nasal cavity sound signal is transmitted (2 kHz 70 dB in the left and right nostril).[2,3] Then we ask the patient to swallow and the muscles of the soft palate constrict, which open the Eustachian tube. The sound signal is transmitted through the middle ear and then measured by microphones in the external ear canals. 25 healthy volunteers were tested.

