

Intracochlear pressure before and after stapedotomy with new chamber stapes prosthesis- Monika Kwacz - Institute of Micromechanics and Photonics, Warsaw University of Technology

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Stapes prosthesis is a medical device that induces pressure wave in the cochlea and allows restoring hearing in patients with stapes otosclerosis. The postoperative hearing results are closely related to differential intracochlear pressure (DIP) between scala vestibuli (SV) and scala tympani (ST). Our new chamber stapes

prosthesis (ChSP) has many advantages over currently used piston prosthesis. The design and functioning of the fluid-filled ChSP (Fig.1) mimics the natural stapes-vestibule interface, overcomes problems associated with length of piston prosthesis, and provides fluid volume displacement comparable to the normal ear.