

# Revision stapes surgery for complex otosclerosis

Clinical case presented by Mary Daval, MD

## Case report

Middle-aged female with severe to profound conductive hearing loss on the right ear. Two failed stapes surgeries after diagnosed otosclerosis precede retreatment. CT scan shows a misplaced prosthesis. Revision stapes surgery is defined as a treatment strategy to replace the prosthesis with a new one.

## Pre-op data

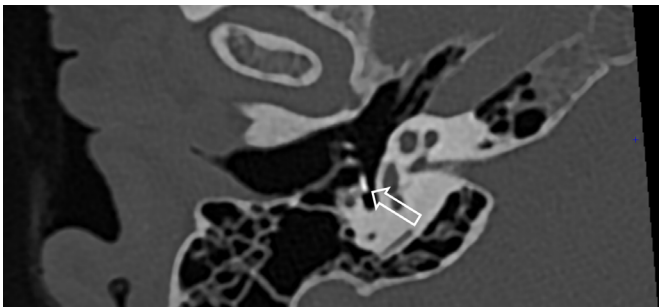


Figure 1: Dislocated piston

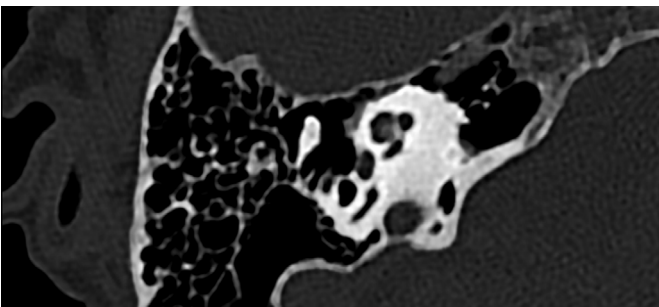


Figure 2: Otosclerosis

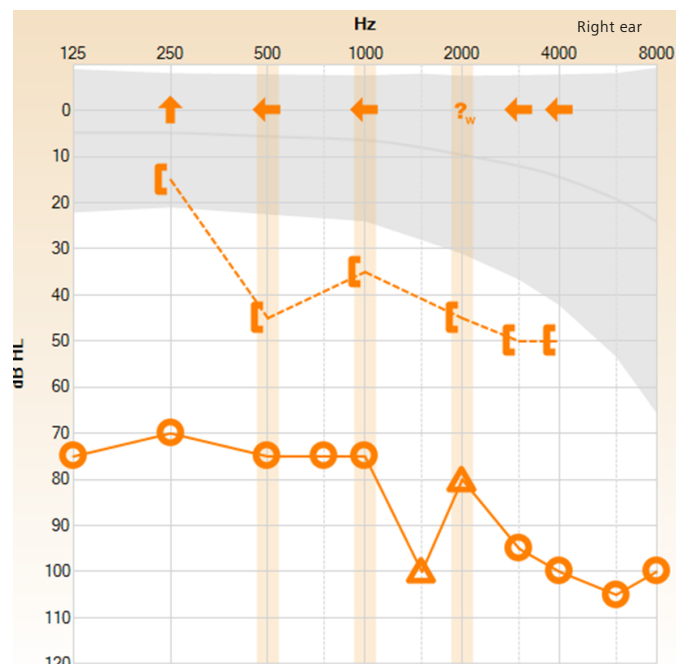


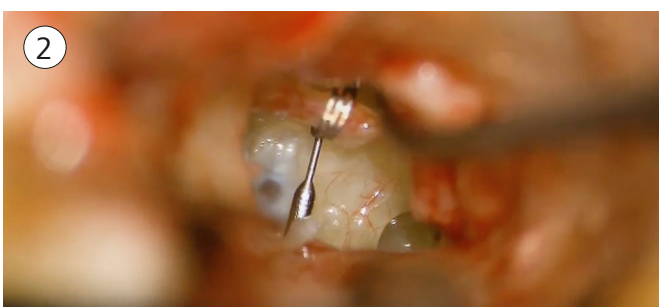
Figure 3: Pre-op audiogram

## Intraoperative summary

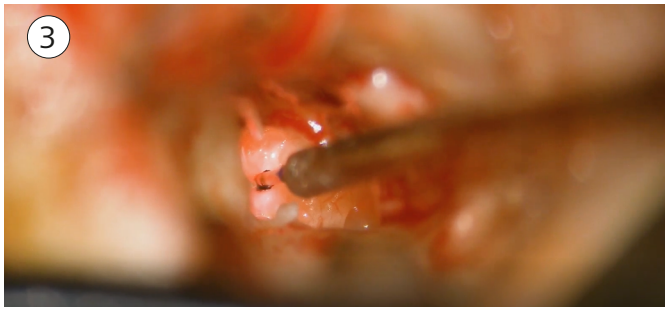


Vertical skin incision followed by posterior and superior incision in the external auditory canal.

A retractor enables two-handed surgery. Elevation of the tympanomeatal flap to the annulus.



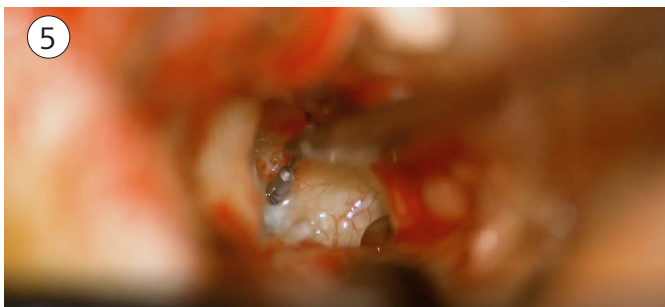
Bone craft does not have to be removed due to the previously performed surgeries. Microscopic view shows misplaced implant. The prosthesis is correctly crimped onto the incus but the end is not located in the fenestration. Mobility check of the incus by palpating the malleus; ossicles move correctly. Removal of the previous implant.



Opening of the fenestration with a fiber laser.



Enlarging the hole by increasing diameter perforators (0.4 then 0.6 mm) that will fit the distal end diameter of the piston (0.5 mm).



Positioning the foot of the piston in the platinotomy hole.



The loop of the piston is positioned and crimped onto the incus with forceps. Mobility check of the entire chain.



Stabilization of the implant by applying cement on the prosthesis and the incus.



Mobility check of the ossicles and placement check of the prosthesis. Tympanomeatal flap replaced.

## Post-op data and results

After a successful hearing test, the patient was discharged. Six months after the stapedotomy, the hearing has been fully restored.

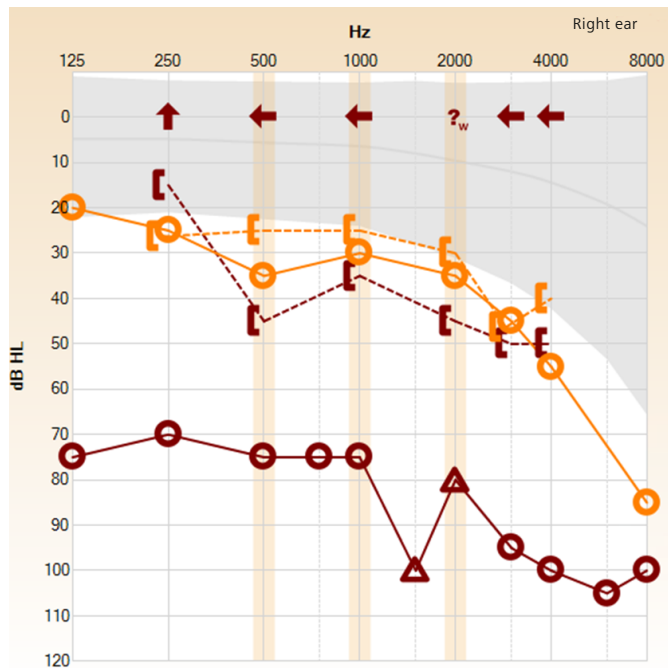


Figure 4: Post-op audiogram



**Mary Daval, MD**  
ENT Surgeon  
Deputy Head of ENT Department  
Hôpital Fondation Adolphe de Rothschild,  
Paris, France

## Do you want to know more?



Visit the ZEISS TIVATO 700 website  
<https://zeiss.ly/tivato-700-revision-stapes-surgery>

en-INT\_30\_025\_0964I The statements of the doctor in this publication reflect only their personal opinion and experience and do not necessarily reflect the opinion of any institution with whom they are affiliated. The doctor alone is responsible for the content of this case report and any potential resulting infringements. Carl Zeiss Meditec AG does not accept any responsibility or liability for its content. The doctor has a contractual or other financial relationship with Carl Zeiss Meditec AG and its affiliates and has received financial support. Not all products, services or offers are approved or offered in every market and approved labeling and instructions may vary from one country to another.

Published by Carl Zeiss Meditec AG, 2023. [www.zeiss.com/med](http://www.zeiss.com/med) All rights reserved.