

# Stapes Surgery in Osteogenesis Imperfecta: Retrospective Analysis of 18 Operated Ears

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## Abstract

**Objective :** To evaluate short and long term results of stapes surgery in patients with Osteogenesis imperfecta (OI). **Design:** Retrospective case series. **Setting:** Tertiary referral center **Patients:** 18 primary stapes surgeries were performed in 11 hearing-impaired OI patients with evidence of stapes fixation. **Intervention:** Mainly CO2 laser stapledotomy with Teflon piston prosthesis. **Main Outcome Measures:** Pre-operative and post-operative audiograms at one month and at least one year **Results:** The main operative findings were stapes fixation, thickened footplate and fragile or fractured stapes crura. No revision surgery was necessary. Hearing improvement was achieved in 94% of the cases. We obtained an air-bone gap closure to within 10 dB in 46% of the cases and to within 15dB in 92% of the cases at one year follow up. The mean hearing gain in air conduction (at 0.5, 1, 2 and 4 kHz) was 18.4 dB at one month and 22.4 dB at one year. **Conclusion:** Stapes surgery in OI gives good results with few complication in our series. A hearing gain is often obtained in spite of the sensorineural hearing loss caused by the natural progression of the disease

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