

The Swedish cochlear implant register

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Introduction

It is well established that a cochlear implant (CI) improves hearing and quality of life in patients with severe-to-profound hearing loss or deafness. However, with evolving indications registration and evaluation of the outcome of CI surgery is reasonable. Only a few countries in Europe have a nationwide register^{1,2}. The Swedish Cochlear Implant Register (SCIR) was launched in 2021 with the objective to systematically monitor, evaluate, and improve CI care across Sweden³. All seven CI-performing centres in Sweden participate in the register. SCIR includes only adult patients. Pediatric CI surgeries are recorded in a separate register.

Methods

The Swedish register for severe-to-profound hearing loss in adults was established in 2005 and expanded in 2021 to also include a national CI register. This register collects pre-, peri-, and post-operative data through standardised questionnaires completed by both patients and clinicians. Registrations are made online, and statistics are available on the register's website. Patients complete a questionnaire including the validated International Outcome Inventory for Hearing aids (IOI-HA) prior to and twelve months after surgery (Figure 1).

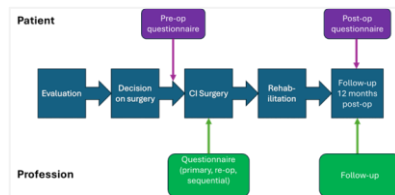


Figure 1. Flowchart over the CI process and timing of entries in the register.

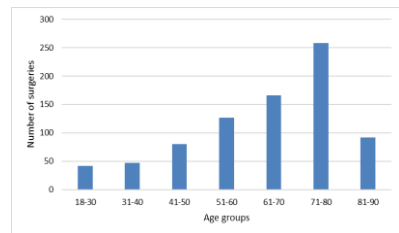


Figure 2. Age distribution of registered patients.

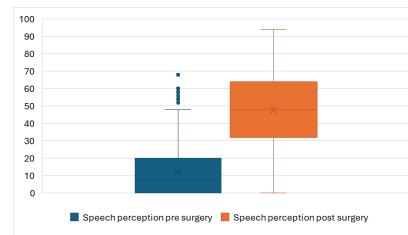


Figure 3. Aided speech perception before and twelve months after CI.

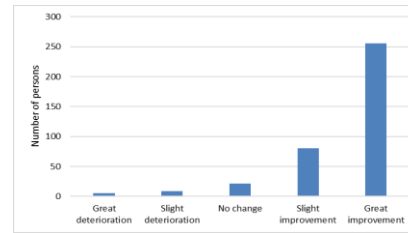


Figure 4. Patient-perceived change in everyday life twelve months after CI surgery.

At follow-up, the patients also respond to the question: "How has your everyday life changed since you received a CI?". Preoperative data comprise audiometric results, unaided and aided speech perception, as well as vestibular and radiological evaluation. Perioperative data include implant type, electrode insertion, intraoperative testing, and the use of antibiotics.

Results

Between June 30, 2021 and March 31, 2026, the SCIR recorded 812 registered surgeries, comprising 438 females and 374 males. Postoperative evaluation had been completed by 376 patients. The number of surgeries peaked in the 71-80 year age group (Figure 2). The average aided speech perception improved from 12% to 48% after surgery (Figure 3). Improvement in everyday life (slight or great) was reported by 90 % of the patients (Figure 4).

Discussion

The results from SCIR are consistent with previous reports demonstrating substantial benefits of cochlear implantation. Long-term interventions such as a CI require structured, nationwide systems for outcome evaluation and quality assurance. With participation from all CI-performing centres in Sweden, SCIR constitutes a comprehensive and valid tool for monitoring CI care.

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