

MULTICENTER SURGICAL EXPERIENCE EVALUATION ON THE MID-SCALA ELECTRODE AND INSERTION TOOLS

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Advanced Bionics introduced the HiFocus™ Mid-Scala electrode (HFMS) in February 2013. Developed through extensive research, the HFMS is designed for mid-scalar placement to protect delicate cochlear structures, and to offer surgical flexibility and ease of use.

KEY TAKE AWAY POINTS

- The HFMS design allows surgeons to choose among a range of standard-of-care insertion techniques and surgical approaches. It provides the flexibility to adapt the insertion method for each patient, depending on anatomical factors encountered during surgery.
- A majority of US surgeons (87%) indicated that the HFMS was easy/very easy to use.

OBJECTIVES

The objective of this survey was to evaluate how the HFMS and insertion tools were used across a population of cochlear implant (CI) recipients of differing ages, audiologic profiles, and anatomical characteristics. The intent was to understand the type and frequency of surgical techniques applicable with the electrode, and to provide guidelines for clinical practice.

METHODS

Two questionnaires were completed by 32 surgeons at implant centres in the United States, Europe, India, and Hong Kong. At the beginning of the survey, surgeons completed a questionnaire that assessed their overall CI surgical practice and preferences. Following each HFMS insertion, surgeons completed a questionnaire that summarized their experience during that surgical procedure. There were no inclusion criteria specified for the implanted patients.

RESULTS

Pre-Surgical Questionnaire

- One surgeon had no previous AB experience. All others had implanted either the HiFocus 1j electrode or HiFocus Helix electrode.
- 87% had more than 5 years of CI surgery experience. All performed greater than 10 surgeries per year, and 62% performed more than 20 surgeries per year.
- The majority (62%) preferred a round window (RW) or extended round window (ERW) approach, 16% preferred a cochleostomy (C), and the remaining 22% stated that their choice was dependent on the anatomy encountered during surgery.
- 22 surgeons preferred a free-hand insertion and 10 preferred to use an insertion tool.

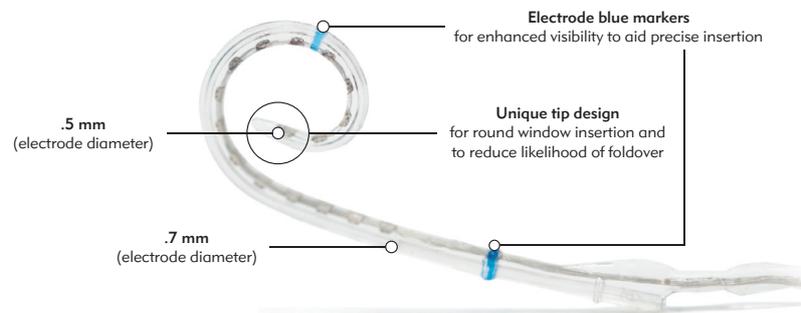


Figure 1. HiFocus Mid-Scala electrode array. The blue markers indicate the correct insertion depth.

Individual Surgery Questionnaire

- A total of 143 surgical procedures were included. The majority of patients (78%) were adults and 31 (22%) were children (1-10 years old).
- In all cases, the electrode was inserted fully to the second blue marker, indicating that full insertion was attained.
- The average drilled cochleostomy was 1.1 mm (SD = 0.2 mm) (reported for 59 cases).
- The insertion tool was used in 55 cases (38%).
- In some cases, the surgical approach was altered from the intended approach based upon the circumstances encountered during the procedure. In 17 cases, the surgeon switched from a RW to an ERW approach, in 9 from a RW insertion to a C insertion, in 6 from an ERW approach to a C, and in 1 from a C to an ERW insertion.
- In a US-only question, surgeons rated the ease of insertion as easy-very easy in 87% of 103 surgeries.

CONCLUSIONS

The HFMS design allows for insertion flexibility depending upon surgeon preference and presenting anatomy. Survey results indicate that insertion of the electrode is easy, two thirds of surgeons preferred a free-hand insertion technique to using tools, and that a RW or ERW insertion is the technique of choice for this group of surgeons.