The MED-EL ABI System

The MED-EL Auditory Brainstem Implant (ABI) is a unique hearing implant system for individuals with hearing loss due to a non-functional auditory nerve. Bypassing the inner ear and auditory nerve, the MED-EL ABI stimulates the cochlear nucleus (CN) and provides users with a variety of hearing sensations to assist in sound awareness and communication.
What is an ABI System?
The ABI System consists of two components, the external audio processor and the implant. The latter relies on the same high-level electrode technology as used successfully in cochlear implant systems. The implant consists of an electronics housing and an implantable soft-silicone matrix with a 12 contact electrode array. The 5.5 × 3.0 mm matrix is the active interface between the stimulation electronics and the neural tissue. An additional reference electrode is used for advanced telemetry measurements providing added functional reliability and control.

How Does the Surgical Placement Work?
The soft-silicone matrix with the 12 contact electrode array is surgically inserted directly onto the brainstem. The implant stimulates the cochlear nucleus enabling the recipient to distinguish a variety of sounds. Following surgery and the post-operative healing period of 14 days, the user is required to undergo an intensive training period with a qualified audiologist to learn how to interpret sounds and understand speech. Generally, it is important to realise that speech understanding with an ABI System is not on the same level as cochlear implant recipients. Therefore, extensive training is crucial in order to gain the best benefit from the ABI System and to make the most of this advanced technology.