Auditory Brainstem Implants

What is an Auditory Brainstem Implant:

Auditory Brainstem Implants are designed for those with a profound hearing loss who are not able to use a cochlear implant. The auditory brainstem implant uses technology similar to that of the cochlear implant but instead of electrical stimulation within the cochlea, it stimulates the cochlear nucleus in the brainstem.

An auditory brainstem implant consists of two parts, an internal and external part.

The internal part is known as the electrode array or implant. It is inserted surgically, usually under general anesthetic. It consists of a receiver package with a magnet, placed under the skin above the ear; and an electrode array, placed in the brainstem.

The external part is known as the sound processor. It is worn behind the ear and consists of a sound processor with a microphone to pick up sounds and cable and circular coil held on the head by a magnet, which enable sounds to be transferred to the electrode array.

Who is suitable for an auditory brainstem implant?

An auditory brainstem implant may be suggested when the hearing nerve is absent or damaged. An auditory brainstem implant can give some access to sound as it bypasses the nerve of hearing and takes the sound signal directly to the brainstem.

This may apply to:

- Some cases of acoustic tumors.
- Some people diagnosed with NF2.
- Those born without a hearing nerve.

Possible outcomes using an auditory brainstem implant:

All implant users have different experiences of sound through their implants. The degree of benefit cannot be guaranteed. It is a difficult task to position the auditory brainstem implant (ABI) on the brainstem exactly to deliver sound. It is possible that there is no hearing sensation at all from the auditory brainstem implant. In other cases the response is within a narrow range so that sounds are not well differentiated. People listening with an auditory
brainstem implant are very likely to need to lip-read as well. It takes time to adjust to the sound perceived through an auditory brainstem implant.

An auditory brainstem implant may help with:

- Hearing sounds in the environment
- Monitoring the pitch and volume of your own voice
- Lip reading: using sound alongside lip patterns to understand speech

More information on the above is available in our referral section.