Proven and safe\(^1\) - the Neuro System unique screw fixation

Receiver migration is one of the primary causes of device-related surgical complications in cochlear implantation\(^2\). For users, this can be painful\(^3\) and even cause extrusion leading to more surgery. To ensure the long-term stability of the receiver, the Neuro System uses a unique screw fixation system, successfully used for over 13 years by numerous surgeons. A clinical study of 150 patients concluded that this unique screw fixation surgical technique efficiently prevents implant migration\(^4\) and an ongoing clinical trial conducted in Denmark and Canada with 50 patients confirms these results with no cases of receiver migration\(^5\).

**Safe for all ages**

The screw fixation technique attaches the receiver to the bone using two small biocompatible titanium screws. By avoiding any bone-bed drilling, it reduces the risk of any intracranial complications, such as hematoma, dura tearing or cerebrospinal fluid leakage\(^6\).\(^7\).

The unique screw fixation system is designed so that the screws penetrate the bone at a typical depth of 1.7mm. This makes it a safe solution even for the thinner skulls of young children\(^5\) where the typical bone thickness is around 2mm\(^8\). On the contrary, when performing a bony bed, a 2.2mm deep recess is generally recommended\(^9\) and the procedure does not necessarily provide the accuracy required in paediatric cases\(^10\).

**Safe, convenient and painless for MRI**

According to the latest independent study by Todt et al, 2018\(^12\) the unique screw fixation system of the Neuro Zti implant also plays a key role in achieving safe, convenient and painless MRI exams at 1.5 Tesla with magnet in place.

**Neuro means reliability**

The Neuro screw fixation system contributes to the outstanding overall safety and reliability of the Neuro System. The Neuro Zti implant has a Cumulative Survival Percentage (CSP) of 99.96% after 3 years\(^13\) making it one of the most reliable cochlear implants in the industry\(^14\).\(^15\).\(^16\).

Finally, a recent survey showed that using screw fixation during an implantation can save surgeons up to 44 minutes in the operating room\(^17\). This is a relevant factor in the cost-benefit evaluation, for example in bilateral cases. This technique literally takes just a few seconds to secure the implant.

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