

# Battery performance – another winning feature of Neuro 2

*The Oticon Medical Neuro Zti cochlear implant and the Neuro 2 sound processor: Multicentric evaluation of outcomes in adults and children. Submitted. Franco Vidal V, Parietti Winkler C, Guevara N, Truy E, Loundon N, Bailleux S, Ardoint M, Saai S, Hoen M, Laplante-Lévesque A, Mosnier I, Bordure P & Vincent C.*

**Abstract:** Battery performance is one clear reason why users are so satisfied with the Neuro 2. In a recent study, **more than 95% of users reported satisfaction with the Neuro 2 battery lifetime.** This is important for the simple fact that if the battery of a CI sound processor dies, the user cannot hear. Lorem ipsum text because sometimes there are a lot of text. The stroke in the table will therefore vary in size.



This dependence on the battery is also why we at Oticon Medical prefer to describe battery life in **real-life conditions**, and not in terms of a best-case scenario. Real-life battery lifetime is influenced by factors that include skin thickness, fitting parameters and usage. Oticon Medical batteries have been tested with realistic fitting parameters and with constant speech signals in accordance with international standards<sup>1</sup> so that they reflect user's daily lives.

To meet different user needs and lifestyles, Neuro 2 comes with a **range of powering options**. It can be used with two sizes of lithium-ion rechargeable batteries – a larger battery that typically lasts for up to two full days, or a smaller battery with a shorter lifetime that is more compact and comfortable for the small ears of children or when a more discreet solution is preferred. In addition, the Neuro 2 can also be used with disposable zinc-air batteries that typically last for up to three days.


## What do users say?

A recent multicentre study led by Prof. Vincent from Lille University Hospital, France, asked 40 adults and 22 children about their satisfaction with the Neuro 2 following three months of use<sup>2</sup>. In their responses, 95% of users reported satisfaction with the Neuro 2 battery lifetime.

A study that logged device usage of 615 cochlear implant users aged 18-64 showed that users typically wear their sound processor for about 12 hours a day<sup>4</sup>. This figure is therefore seen as the target for real-life battery performance. This latest Neuro 2 study has shown that even with the small rechargeable battery, over 80% of users said that the battery performance exceeded the 12-hour expectation<sup>3</sup>.



## Children need power for learning

 For children, reliable battery time is essential for being able to expand vocabulary, learn at school and socialize with friends. Previous studies<sup>4,5</sup> have shown that children use their sound processor for an average of nine hours daily. With the Neuro 2 battery, children and their parents do not need to worry about the battery running out as it lasts much longer than the average use. In fact, the Neuro 2 battery has been shown to last for over 12 hours for 77% of children<sup>2</sup>, far exceeding what is needed by the majority of children.

The feedback received in this study has shown how the battery lifetime of the Neuro 2 exceeded typical usage patterns for both adults and children. This is one more reason why users are so satisfied with the Neuro 2.



1. ANSI/AAMI C186:2017 Cochlear implant systems: Requirements for safety, functional verification, labeling and reliability reporting. 2. Franco Vidal V, Parietti Winkler C, Guevara N, Truy E, Loundon N, Bailleux S, Ardoint M, Saai S, Hoen M, Laplante-Lévesque A, Mosnier I, Bordure P & Vincent C. The Oticon Medical Neuro Zti cochlear implant and the Neuro 2 sound processor: Multicentric evaluation of outcomes in adults and children. Submitted. 3. The Neuro Zti Cochlear Implant System Efficacy and Safety in Adults. <https://clinicaltrials.gov/ct2/show/results/NCT02941627> 4. Busch T, Vanpoucke F & van Wieringen A. (2017). Auditory environment across the life span of cochlear implant users: Insights from data logging. *J Speech Lang Hear Res*, 60(5):1362-1377. 5. Easwar V, Sanfilippo J, Papsin B & Gordon K (2016). Factors affecting daily cochlear implant use in children: Datalogging evidence. *J Am Acad Audiol*, 27(10):824-838.