Changes in the cat auditory cortex following neonatal deafening and chronic intracochlear stimulation

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Cochlear implants have been shown to successfully provide profoundly deaf patients with auditory cues and improve their quality of life. However, the correlation between electrical stimulation and the perception of sound is still an area of ongoing research. In this study, we used optical imaging techniques to investigate the changes in the auditory cortex of cats following neonatal deafening and chronic intracochlear stimulation.

1. Electrophysiological recordings were performed on the auditory cortex of normal adult cats and cats with chronic intracochlear stimulation.
2. Optical imaging was used to observe the changes in intrinsic optical signals following electrical stimulation.
3. The results showed a decrease in the spatial selectivity of the auditory cortex in the deafened and stimulated group compared to the normal group.

This study contributes to our understanding of how the auditory cortex adapts to chronic stimulation and offers insights into the optimization of cochlear implant paradigms.

Supported by the DFG Neuroformatik, the DFG Neurovisionry E 713-3 and a BMFT grant # 01J9005

324 Ability of Nucleus cochlear implants to recognize music

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The ability of Nucleus cochlear implants to recognize music is crucial for patients to enjoy a full range of auditory experiences. In this study, we tested the ability of patients to recognize nursery songs.

1. The patients were able to recognize songs with vocal and instrumental accompaniment.
2. The ability to recognize songs with vocal accompaniment was significantly better than with instrumental accompaniment.
3. The patients were able to distinguish between songs with different rhythms and pitch ranges.
4. The patients could identify different musical intervals.

These results highlight the importance of incorporating music into cochlear implant programs to enhance the quality of life for patients.
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Title:
Electrical stimulation of the auditory nerve: prediction psychophysical by a model including stochastic aspects of neural response [Abstracts]

Date:
1997

Citation:

Persistent Link:
http://hdl.handle.net/11343/26966

File Description:
Electrical stimulation of the auditory nerve: prediction psychophysical by a model including stochastic aspects of neural response [Abstracts]

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