

Subcutaneous EEG recording

- a tool for ultra-long-term monitoring?

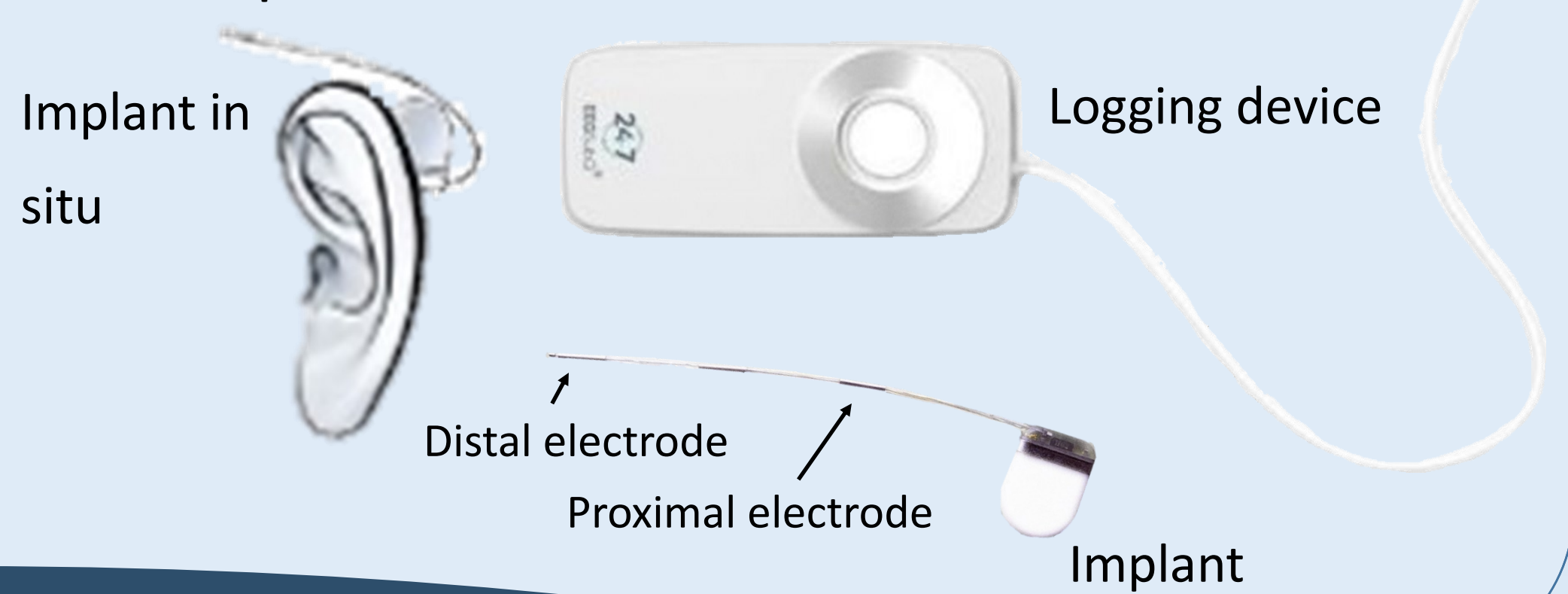
S. Weisdorf¹, S.W. Gangstad^{2,3}, J. Duun-Henriksen³, K.S.S. Mosholt⁴, T.W. Kjær¹

Background

- Unrecognized seizures is a common problem in epilepsy.
- Long-term home monitoring with EEG may provide a solution, but has not been feasible until now.
- A novel EEG recording device for subcutaneous implantation has been introduced.
- Our aim is to compare EEG recordings from the new device with scalp EEG recordings.

Methods

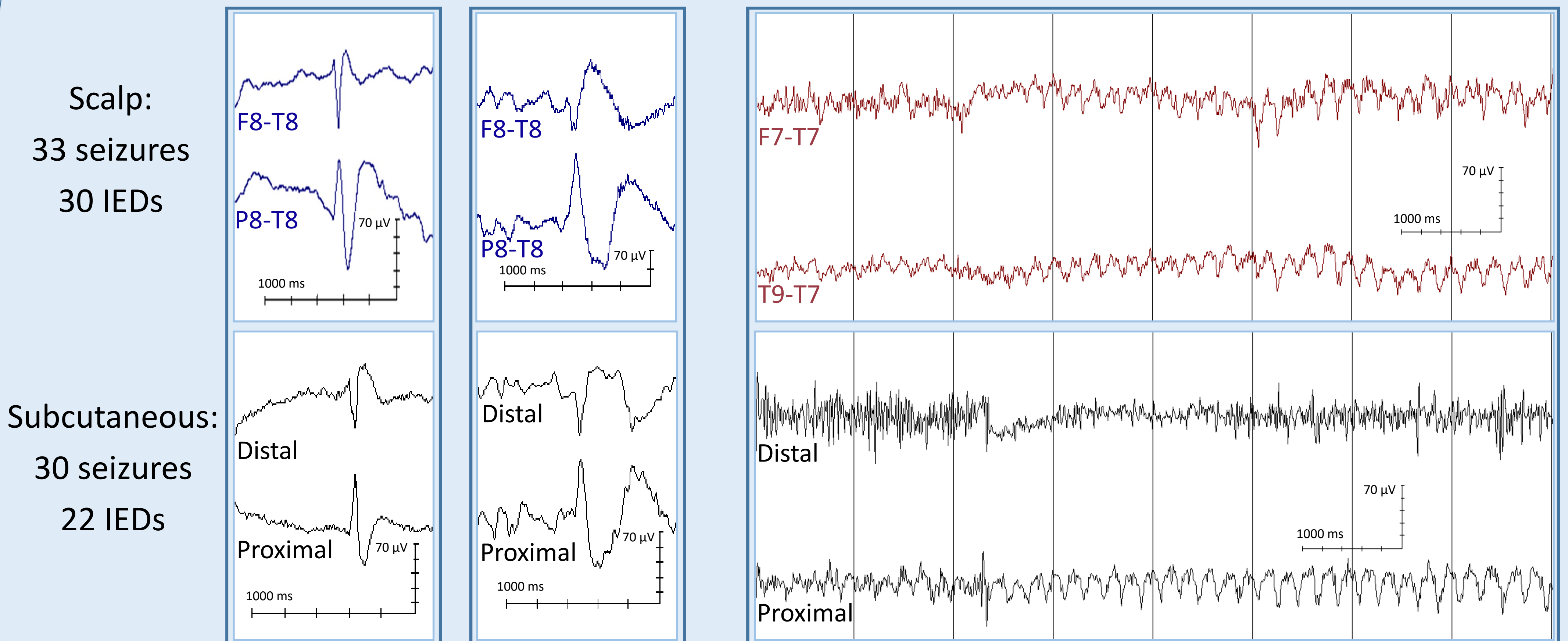
- 4 subjects with temporal lobe epilepsy.
- Implantation before EMU admission.
- Comparison of synchronized recordings from scalp and subcutaneous electrodes.



Conclusion

Preliminary results shows that subcutaneous EEG recordings correctly identifies 91 % of seizures and 73 % of IEDs compared to scalp EEG recordings. The device seems to be a promising tool for ultra-long-term epilepsy monitoring.

Results



IEDs. Examples of IEDs from scalp recordings (top) and subcutaneous recordings (bottom).

Seizure excerpt. Example of excerpt from a seizure from scalp recordings (top) and subcutaneous recordings (bottom).