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Presentation Abstract

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Title: Noninvasive EEG in animals

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Abstract: Classically, electroencephalogram (EEG) recordings in animals, especially in rodents, are performed in an invasive way, requiring brain surgery and intracranial electrode implants. This manipulation, which requires technical surgical skills, induces postoperative trauma and stress.

We have adapted human EEG recording protocols to rodents, yielding to a new technique which allows us to noninvasively record a faithful EEG signal from rat with a single recording electrode, placed at the surface of the scalp. Small amount of electroconductive gel (electrode jelly) or electroconductive cream ("synapse electrode cream") is applied in predetermined locations on the scalp to facilitate electrical contact with silver electrodes. These steel electrodes are secured using collodion with ultra-fast drying properties.

As with human preparations, electrodes can be removed at any time using collodion remover and acetone. Temporal fragmentation and preferred frequency analysis (Low Thesis, UC San Diego 2007) were applied to this digitized data in order to automatically tease out signals attenuated by the skull.

Disclosures: **M. Bonjean**, None; **P. Low**, NeuroVigil, Inc., A. Employment (full or part-time); **L. Wylie**, None; **B. Nielsen**, None; **T.J. Sejnowski**, NeuroVigil, Inc., F. Consultant/Advisory Board; **F.H. Gage**, NeuroVigil, Inc., F. Consultant/Advisory Board.

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