

Oscillatory Correlates of Human Memory Function

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Using human intracranial recordings, which can be ethically obtained as part of standard neurosurgical evaluations, we have examined the oscillatory correlates of memory function. Five key facts are presented and discussed: 1. Oscillatory activity, appearing as peaks at different frequencies in the power spectra, are a prominent feature of both cortical and hippocampal-area recordings. 2. Oscillations are temporally linked to behavioral states, either increasing or decreasing during periods of heightened mental activity. 3. Oscillatory activity is often focal, with nearby sites exhibiting strikingly different effects. 4. Oscillations can be rapidly initiated or reset by salient events or stimuli. 5. Oscillations appear to modulate the successful formation of new episodic memories. A major focus of the presentation will be on this last point and its consequences for our understanding of the neural correlates of human episodic memory function.