**Introduction**

Do patients with medial temporal lobe epilepsy (MTLE) display abnormal EEG activity during interictal states?

**Methods**

Animal model of MTLE:

- **P7:** bilateral injection of ibotenic acid (IBO) or saline (SAL) into ventral hippocampus of Long-Evans rats
- **P60-90:** LFP recorded bilaterally from piriform (pi), dorsal hippocampus (dh), front cortical screw (fs), back cortical screw (bs)

Seizures+noise detected/excluded with White/Dudek/Staley algorithm

Results

Reduced entropy in interictal LFP across areas and time-scales

- Reduced coordination across different areas, most noticeably interhemispherically

Conclusions

1. We could distinguish epileptic from control animals based on the different patterns of activity similarity (population coordination) across electrodes.

2. A major feature of this was a large decrease in coordination across hemispheres, suggesting a breakdown in interhemispheric communication.

3. We speculate that any tendency of areas to lose communication or break away from coordinated brain activity might predispose to seizures in these areas.

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