

Wireless EEG

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The use of dry, wireless EEG to understand brain activity associated with gait.

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Electroencephalography (EEG) technology is rapidly advancing allowing the investigation of brain activation during complex movements such as gait. The purpose of this project is to use a dry, wireless EEG system to collect motor cortical activity during walking in different conditions. The research group will first compare and contrast the dry, wireless EEG system to a standard system to determine the validity of the signal. Once the dry, wireless EEG system is validated, the team will then begin integrate the device into data collections during gait. EEG will be collected during three walking conditions, normal walking, walking with auditory cues, and walking with music. Finally, the team will develop and compare various signal analysis techniques from the data collected. The project will help to establish data collection methods and analysis for the use of new EEG technology in persons with Parkinson's disease.