

## Kinematic signatures of postural instability and gait in Parkinson Disease

**Status:** Recruiting

### Eligibility Criteria

**Age:** 18 years and over

This study is also accepting healthy

**Healthy Volunteers:** volunteers

#### Inclusion Criteria:

1. People diagnosed with Parkinson's disease, with or without implanted Deep Brain Stimulator (DBS). May be at any age of disease progression. 2. Healthy adults of similar age to participants who have Parkinson's Disease and are enrolled in the study.

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#### Exclusion Criteria:

People who have dementia of sufficient severity to impair their ability to make health-care decisions for themselves

### Conditions & Interventions

#### Conditions:

Brain & Nervous System

#### Keywords:

DBS, Deep Brain Stimulator, Parkinson's, Parkinson's Disease

### More Information

**Description:** This is a prospective study aimed at quantifying walking and balance in Parkinson's Disease patients in the clinical setting. To accomplish this, we will use a portable motion capture system that is widely used to study biomechanics in humans. Once quantified, we want to test the effects of deep brain stimulation (DBS) frequency in patients who already have DBS systems in place. Thus, our objectives are: 1. Develop an anonymized database of quantitative postural responses and gait of PD patients. 2. Develop software that can quantify the postural response and gait of PD participants using only standard video camera footage. 3. Test the effectiveness of bilateral high and low frequency STN-DBS on the postural responses and gait of PD patients using the portable motion capture system. 4. We will passively record thalamic LFPs from patients with Medtronic Percept DBS devices while the DBS is OFF, set to low frequency, and set to high frequency.

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#### IRB

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