Wearable sensors for the combined use of early detection of postural instability and fall risk prediction in Parkinson s disease patients

Status: Recruiting

Eligibility Criteria

Age: 18 years and over

This study is also accepting healthy
Healthy Volunteers: volunteers

Inclusion Criteria:

1. Anyone who has been diagnosed with parkinsonism including Parkinsons disease, Normal Pressure Hydrocephalus, or atypical parkinsonism 2. Healthy adults of similar age as study participants

Exclusion Criteria:

1. 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:
Deep Brain Stimulation (DBS), Falls, Parkinson's Disease

More Information

Description: This is a prospective study aimed at quantifying walking and balance in patients with parkinsonism in the clinical setting in addition to a living environment 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. Demonstrate that parkinsonism patient-specific kinematics can be used to detect postural instability in the clinic using wearable IMUs. 2. Demonstrate that individualized, home-based postural response curves can detect postural instability and prospectively predict fall risk in patients with parkinsonism.
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