Device for Assessing Motor Disabilities

Published date: July 25, 2012

Technology description

Background
Researchers at the University of Calgary are developing a novel, non-invasive rating system to standardize and quantify the movement abnormalities due to illness such as Parkinson’ s disease, stroke and multiple sclerosis. The system will be able to provide accurate and longitudinal data of individual patients and their controls for clinical monitoring, drug testing and insurance purposes.
The system is designed to meet the medical, social, and legal requirements of disability assessment in a regular clinical and natural setting. It attempts to integrate the disability ratings into regular medical exams according to the individual patient’ s living and working conditions. It is objective, reliable, easy to use and economically meaningful.
The device collects kinematic data from the neck, trunk or limbs via a small mountable package of inertial sensors and wirelessly transmits them to a central database. The data is collected using different batteries of motor and cognitive tasks that are considered disability-relevant under US Social Security’ s Guidelines of Disability Evaluation (Blue Book). In contrast to the current questionnaire-based approach, the device allows incremental changes in performance to be tracked. The methods are of particular importance with Parkinson’ s disease as patients display many common motor impairments, including involuntary movements, that are of significant diagnostic importance. They have produced proprietary diagnostic indicators to report the degree of a person’ s disability, both currently and longitudinally by comparing patient’ s data over time.

Advantages

• Objective, reliable, easy to use and economically meaningful
• Tasks are considered disability-relevant under US Social Securities Guidelines of Disability Evaluation (Blue Book)
• Proprietary diagnostic indicators that report the degree of a person’ s disability, both currently and longitudinally

Institution

University of Calgary

联系我们

叶先生

电 话：021-65679356

手 机：13414935137

邮 箱：yeyingsheng@zf-ym.com