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CLINICAL TRIAL ANNOUNCEMENT

Exploratory Study to Evaluate Keystroke Dynamics

Official Title:

An exploratory study of typing cadence or keystroke dynamics as a non-invasive approach to measure neurological function

The purpose of this study is to evaluate whether typing cadence or keystroke dynamics (i.e., the rhythm by which each individual types on a keyboard) is a meaningful non-invasive, natural environment neurological functional outcome measure in individuals diagnosed with early stage cancer or neurologic disorders and the caregivers of such individuals. The study is also aimed at determining the association between changes in keystroke dynamics over time and anxiety and depression scores, cognitive function, and health-related quality of life.

Research into typing patterns has broad applications in both psycholinguistics and biometrics. Variability in typing cadence has been used to infer an individual's state of active attention and has been demonstrated as a potential predictive variable in models that detect individual user's emotional status.

Changes in the typing pattern or rhythm can then be measured and linked to brain function [including anxiety, depression, cognitive function (level of awareness and thinking), and quality of life] to identify if there is a connection. There is a greater interest in the use of keystroke dynamics biometrics, as it is economical and can be easily integrated into existing computer systems by the use of a software program installed on a computer.

Key Inclusion Criteria:

- Capable of providing informed consent
- Age \geq 18 years
- Karnofsky Performance Score \geq 50
- Own and able to use a computer with an English QWERTY keyboard

Key Exclusion Criteria:

- Moderate to severe cognitive dysfunction
- Hearing or visual impairment
- Inability to read and comprehend English language text