

Ocurate: Device and Methods for Ocular Motor Testing

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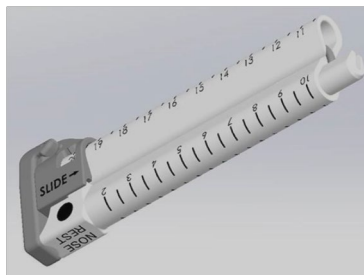
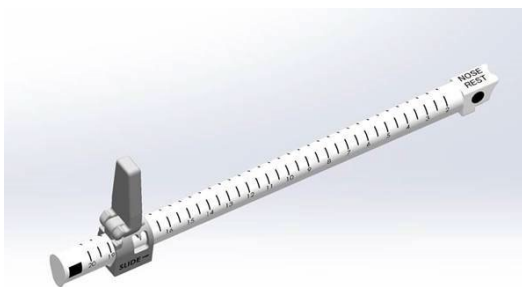
The Innovation: Children's Mercy Kansas City (CMKC) has developed a compact, portable non-electronic tool for assessing eye tracking measures that can be used for ocular motor testing. The tool can be used to track patients' progress and standardize measurement towards return to play/learn/active duty among patients and their care team.

Background:

Medical professionals often use various cognitive and motor function tests to evaluate brain function before and after a head injury, and based upon the results of those tests, render a diagnosis. The focal point for these tests is not standardized within the medical profession. These tests are often conducted using different assessment tools. This lack of standardized testing can lead to imprecise diagnosis. What is needed is a tool that can be used to standardize the performance of a variety of assessments in order to render a more consistent and repeatable screening for indications of head trauma.

Innovation:

The innovation is a pocket-size tool to be used to conduct standardized ocular motor assessment, including convergence, smooth pursuit, saccades and vestibular ocular reflex.



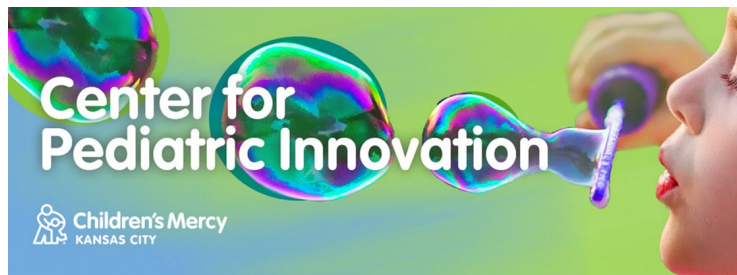
Ocurate tool is approximately 8 inches when extended, and 4 inches when folded

Advantages:

- Compact, cost-effective, non-digital, non-electronic design
- Ease of use in all settings, both indoor and outdoor
- Facilitates standard testing/evaluation among different members of a care team
- Able to be utilized to screen for multiple ocular motor functions, including convergence, saccades, smooth pursuit and vestibular ocular reflex

Status: PCT Patent Application filed June 12, 2023

Ocurate Revised 6/18/24



Collaboration Opportunities:

- CMKC is seeking a partner to license, manufacture and distribute the tool without claims.
- CMKC is seeking research collaborators to explore how Ocurate can establish Clinical Care Standards for assessment and management of people with vestibular and/or neurological injuries/impairments. These standards would assist in clinical care through:
 - Identification of acute issues to determine appropriate activities and/or care assessment,
 - Inform what referrals are required for the care plan,
 - Monitor treatment progress, and
 - Assist with return to play/learn/work decisions.

This proposed research would also improve upon the currently accepted clinical protocols by providing:

- A visual target utilized in association with the VOMS,
- Quantified measures, and
- Further confirmation of inter- and intra-rater reliability of measurement collection via Ocurate (initial study found these measures to be consistent during testing).

Reference: Mucha A, Collins MW, Elbin RJ, et al. A Brief Vestibular/Ocular Motor Screening (VOMS) Assessment to Evaluate Concussions: Preliminary Findings. The American Journal of Sports Medicine. 2014;42(10):2479-2486. doi:10.1177/0363546514543775