Pupillometry and Saccades as Objective mTBI Biomark

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Institution Receiving Award: GENEVA FOUNDATION
Program: ARIF
Proposal Number: RIF13R623
Award Number: W81XWH-14-C-0048
Funding Mechanism: Broad Agency Announcement
Partnering Awards:
Award Amount: $491,815.00

TECHNICAL ABSTRACT

Problem, Hypothesis, and Military Relevance:

Objective: To provide validated tools (pupillometry and King-Devick Test) and methodology to accurately and objectively identify Soldiers with acute mild traumatic brain injury (mTBI).

Null Hypothesis: There is no difference in pupillary light reflex (PLR) parameters and saccadic eye movement between Warfighters with acute mTBI and age-matched control group.

Military Relevance: There is a lack of objective biomarkers for early and accurate identification of Warfighters with mTBI. The study proposes to use commercial-off-the-shelf (COTS) instruments to provide a rapid solution to overcome this problem.

Technology Description: