Functional ability assessment in early dementia and mild brain injury using cognitive-motor integration.

https://neurodegenerationresearch.eu/survey/functional-ability-assessment-in-early-dementia-and-mild-brain-injury-using-cognitive-motor-integration/

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Research Abstract

Two prominent health issues facing Canadians are 1)the impact of dementing illness on the elderly and 2)the impact of concussion (mild traumatic brain injury) on young athletes and workers. Whether caused by trauma or degenerative disease, the effect of mild brain insult on one’s functional abilities is not well understood. Our research to date has documented that “cognitive-motor integration”, or tasks which rely on rules to plan a movement (such as “push

the computer mouse forward to move the cursor up"), is impaired both in the early stages of dementia, and following mild traumatic brain injury. The goals of the present research are twofold. First, we will apply our previous research into a validated, clinically feasible cognitive-motor assessment tool to detect dementia in its early-stages. We will also examine the utility of this assessment tool to predict which individuals will progress from mild cognitive impairment to dementia. Second, we will expand our preliminary research demonstrating that young adults show impaired cognitive-motor integration following concussion. The ability to think and act simultaneously is something that is crucial for safe performance at work and in the sport arena. Diagnosing its impairment would be an important component of functional ability assessment. Such abilities are not captured by current tests in adults, and is not at all explored in youth. Overall, our research will provide a basic understanding of how our brains process rule-based information to make accurate movements in our everyday lives, and will provide tools to assess how these brain processes can degrade with neurological disease and brain injury.

Further information available at:

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