

New technology allows medical workers to better assess brain injuries

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A Queen's University neuroscientist is launching a medical tool at the world's largest neuroscience conference in San Diego on Monday, Nov. 15.

The KINARM Assessment Station will greatly improve the way healthcare workers assess patients suffering from brain injuries and disease.

The new technology, invented by Stephen Scott, is the only objective tool for assessing [brain function](#), and clinical researchers need this tool to develop better therapies for treating [brain injury](#) or disease.

"The beauty of this system is it that it captures subtle deficits caused by a brain injury that are not measured by traditional tests," says Dr. Scott, a professor at The Centre for Neuroscience Studies at Queen's.

"Traditional testing methods, such as touching a finger to the nose or bouncing a ball, just don't capture the complexity of brain processes."

The Society for Neuroscience Conference, which takes place Nov. 13-17 in San Diego, attracts more than 26,000 people.

KINARM combines a chair with robotic 'arms' and a virtual/augmented reality system that enables neuroscience and rehabilitation researchers to guide their patient through a series of standardized tasks, such as hitting balls with virtual paddles. Once the tests are completed, the system instantly generates a detailed report, pinpointing variations from normal

behaviour.

"This system has the potential to do for the diagnosis of brain injury what [X-rays](#) did for diagnosing muscular and skeletal injuries," says John Molloy, President and CEO of Queen's University's PARTEQ Innovations, which helped commercialize the technology along with BKIN Technologies.

Knowing the full effects of a brain injury on the ability to function in daily life means more effective rehabilitation programs for patients. It also means a better understanding of the potential impact of brain injury, whether caused by accidents or by diseases including stroke, MS, Parkinson's, cerebral palsy or [fetal alcohol syndrome](#).

KINARM also has potential to help people in professional sports and the military, where impact-based head injuries are an occupational reality, and where there is a significant lack of effective tools for determining when patients can safely return to regular duties without the risk of a career-ending injury.

Provided by Queen's University

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