

Integrated Neuro-cognitive Assessment System

INCAS[®]

Full Suite of Cognitive Tests on a Single Tablet



By combining assessment and interpretation into **one integrated platform**, clinicians can diagnose **earlier** more **accurately** and can **track** changes to disease evolution. Developed by scientists at **Sunnybrook Health Sciences Centre**, and **Baycrest INCAS** replaces multiple tests for attention, language or memory deficit into one computer-based tool, with the results **automatically** scored, stored and reported.

Baycrest

An EMR hand-held device with an Embedded Cognitive Testing Suite

INCAS is a testing and analysis system that integrates multiple cognitive function tests in an easy-to-use tablet. The application delivers evidence-based testing methodologies for attention, language, spatial and memory deficits.

Patients are guided through using the tablet to complete a series of tests. Test results are automatically scored on the server as they are recorded and can be reviewed, trended and compared to large normative and disease specific databases. The testing suite is fully integrated into a customizable Electronic Medical Record System (EMR) and can interface with other EMRs.

The Benefits

- Save time on cognitive function testing
- Accurately assess and track changes
- Trend data over time
- Give patients with easy-to-use tests in a single tablet

Sunnybrook and Baycrest scientists are developing tools and products based on their deep clinical knowledge and experience – and do so recognizing the pressures and needs of their peers.

To date, **INCAS** has been used with approximately 2,500 patients, most of whom have had a stroke. It can also be used in patients with dementia, multiple sclerosis, traumatic brain injury and other conditions.

Integrates Cognitive Tests in One Device

INCAS uses clinical best practices to provide tests in the following areas:

SIMPLE ATTENTION | Serial digit-repetition tasks.

SPEED OF PROCESSING | Four tests including two tests that measure the time to count backwards, a standard trails task, and a fourth test to assess attention, speed and executive function.

EXECUTIVE | Three tests including a serial digit-repetition task, word list generation, and an eight-item trails task that records the number of correct moves and the time to complete.

LANGUAGE | Four tests including names, name pictures, discerning whether visually presented word pairs rhyme and a token test.

PRAXIS | The use of four gestures divided into three categories is probed: facial gestures, intransitive limb gestures and transitive limb gestures.

VISUOSPATIAL FUNCTION | Three tasks that include line bi-section, clock drawing and the copying of a geometric figure.

MEMORY | Four tests that include: orientation, visuoverbal/picture recognition to further test implicit memory, five-word list learning, recall and recognition, and visual memory to probe visuospatial memory. Typically, a patient will repeat the tests every six months, or as needed. Generally, only tests with abnormal results are repeated although the entire battery of tests might be repeated every one to two years to see what changes have occurred during the interval. Improvement or deterioration with therapy can be tracked over time as well.

Getting Started with **INCAS** in Your Organization

Regardless of the types of conditions you treat or diagnose, **INCAS** can be a valuable addition to a clinic or health organization. It helps to simplify cognitive testing, provides trending analysis over time through computerized reports and results, and integrates different tests into one, easy-to-use device.

Clinicians will be provided with:

- Handheld tablet
- **INCAS** system
- Database server for recording and archiving results
- Training
- Product manuals
- Ongoing updates
- Clinical background information.

The option to integrate with EMR will be available using a standards-based architecture. This product is currently under development and the final product may not be exactly as described.



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