

Test for cognitive impairment gains global renown

Imagine you're a doctor who wants to know whether an elderly patient's weaker memory is just an expected result of aging or the first sign of cognitive impairment that may foreshadow the onset of Alzheimer's disease. No quick and easy answer to that question could be found, until a diagnostic tool was developed in 2005 by a team that included researchers from the Lady Davis Institute (LDI).



Dr. Howard Chertkow (left), Dr. Ziad Nasreddine and Dr. Natalie Phillips with a copy of the Montreal Cognitive Assessment.

The tool, known as the Montreal Cognitive Assessment (MoCA), has since been so widely accepted that the scientific paper that introduced it—published in the *Journal of the American Geriatrics Society*—has now hit a milestone of 1,000 citations. In other words, it is referred to frequently in scholarly works around the world because it is of such fundamental importance to the field.

“It’s a number that represents a rare achievement,” says Dr. Chertkow, who is Director of aging-related research at the LDI, Director of the JGH Memory Clinic, and a co-developer of the test with Dr. Ziad Nasreddine, a Montreal cognitive neurologist, and Dr. Natalie Phillips, who conducts research into neuro-psychology at the LDI.

“Previous tools were designed only to pick up dementia, which is a much more severe condition. MoCA allows physicians to make an earlier and faster diagnosis of memory impairment.” In contrast to the laborious clinical and neuro-psychological assessments that used to be standard, MoCA takes only 12 minutes to administer.

The test, freely available to all physicians, has been translated into 32 languages and has become a world standard for diagnosing cognitive decline for such conditions as aging, AIDS, multiple sclerosis and head injuries. MoCA has also been named by the Canadian Institutes of Health Research’s International Collaborative Research Strategy for Alzheimer’s Disease as one of the top seven Canadian contributions to the dementia field.

“It demonstrates the broad acceptance of the MoCA test,” Dr. Chertkow says, “and we’re thrilled to have developed an instrument that has had a real-world impact on how we go about assessing cognitive impairment. Along the way, it has also enhanced the international reputation of the Memory Clinic at the JGH.”

New insights into effects of a chronic lung disease

An extensive analysis of the medical records of more than 73,000 patients has significantly redefined the progression of chronic obstructive pulmonary disease (COPD), a serious condition characterized by diminished lung capacity and decreased life expectancy.

For decades, COPD was thought to worsen gradually. However, three members of the Centre for Clinical Epidemiology at the Lady Davis Institute have found that patients actually experience a rapid decline after their second acute exacerbation of COPD. In the weeks immediately after each subsequent severe exacerbation, they run an increased risk of mortality. This conclusion is based on data in patients’ records dating from 1990 to 2005.

“It is very clear that the pattern is not one of gradual decline over time, but a sharp deterioration in the patient’s health with each acute lung attack,” says Dr. Samy Suissa, Director of the Centre for Clinical Epidemiology, who conducted the study with Dr. Pierre Ernst of the Centre for Clinical Epidemiology, and researcher Sophie Dell’Aniello.

In their year-end review, the editors of the scientific journal *Thorax* awarded this study its gold medal for research on adult lung disease. The authors were described as “the best sort of epidemiologists. They ask important and highly clinically relevant questions and provide answers that change the way we think about disease.”

“The clinical implications are huge,” notes Dr. Suissa. “This study tells us that when patients are hospitalized for an exacerbation of COPD, they are at very high risk of death for the first month. Therefore, they must be closely monitored and carefully managed during this period.

“We also learned that patients are headed for a very rapid decline after the second exacerbation. So if we want to extend their lives, a second exacerbation must be delayed for as long as possible through effective treatment.”

Dr. Suissa adds that since smoking is the most common cause of COPD, the best way to handle COPD is to quit smoking or, better yet, not to start.

