



Mild Cognitive Impairment

Recognizing the warning signs and what to do

About 10 to 15% of adults over the age of 65 years are believed to have Mild Cognitive Impairment (MCI), a condition commonly characterized by memory problems well beyond those associated with normal aging. About half of those with MCI go on to develop Alzheimer's disease or another dementia within five years.

Most often, MCI is the earliest, pre-clinical condition of dementia. This means the symptoms are not severe enough for a diagnosis of dementia but pathology is happening in the brain that will likely lead to dementia. Sometimes people have other health problems that lead to MCI and once these other conditions are treated, their cognition improves.

Some behaviour changes that may occur with MCI:

- Forget things more often.
- Forget important events such as appointments or social engagements.
- Lose train of thought or the thread of conversations, books or movies.
- Feel increasingly overwhelmed by making decisions, planning steps to accomplish a task or interpreting instructions.
- Start to have trouble finding their way around familiar environments.
- Become more impulsive or show increasingly poor judgment.
- Family and friends will notice changes.
- Persons with MCI may also experience depression, irritability, aggression, anxiety, and apathy.

These behaviour changes are greater than what you would expect for normal age-related changes. If you have MCI, you may be aware that your memory or

mental function has "slipped." But generally these changes aren't severe enough to interfere with your day-to-day life and usual activities.

Possible causes

There is no single cause of MCI, just as there is no single outcome for the disorder. Symptoms of MCI may remain stable for years, progress to Alzheimer's disease or another type of dementia, or improve over time. Current evidence indicates that MCI often, but not always, arises from a lesser degree of the same types of brain changes seen in Alzheimer's disease or other forms of dementia.

Diagnosis

Mild Cognitive Impairment is a "clinical" diagnosis representing a doctor's best professional judgment about the reason for a person's symptoms. There are currently no tests or procedures to demonstrate conclusively that a person has MCI. A medical workup for diagnosing MCI includes:

- **Thorough medical history** to document current symptoms, previous illnesses and medical conditions, and any family history of significant memory problems or dementia. It is important to rule out other possible causes for the changes in cognition such as depression, diabetes, stress, insomnia, medication side effects, or the presence of mini strokes.
- **Assessment of independent function and daily activities**, focusing on any changes from a person's usual level of function.
- **Input from family member or trusted friend** to provide additional perspective on how the person's function may have changed.
- **Assessment of mental status** using brief tests designed to evaluate memory, planning, judgment, abil-



ity to understand visual information, and other key thinking skills.

- **In-office neurological examination** to assess the function of nerves and reflexes, movement, coordination, balance, and senses.
- **Evaluation of mood** to detect depression; symptoms may include problems with memory or feeling “foggy.” Depression is widespread and may be especially common in older adults.
- **Laboratory tests** including blood tests and imaging of the brain's structure.

If the medical examination does not create a clear clinical picture, the doctor may recommend more extensive neuropsychological testing, which involves a series of written or computerized tests to evaluate specific thinking skills. False positives on the usual mental status exams are high because a person's cognitive status can fluctuate – a person can test positive for MCI after taking a full battery of cognitive screening tests one time, but then test normal a year later. Experts recommend that a person diagnosed with MCI be re-evaluated every six months to determine if symptoms are staying the same, improving or growing worse. The doctor can refer someone with MCI to a memory clinic for more detailed assessments over time.

Risk Factors for developing MCI

The risk factors most strongly linked to MCI are the same as those for dementia: advancing age, family history of Alzheimer's disease or another dementia, and lifestyle factors that raise risk for cardiovascular disease. Medical conditions such as depression, diabetes, and high blood pressure from middle age onwards are all linked to a raised risk of developing dementia as 10 to 15% of individuals with MCI will progress to dementia within the first year, and about 50% will develop dementia within five years. It is important that these other medical conditions are diagnosed and treated early.

Reducing the risk:

- Practice healthy eating and lifestyle habits. Reduce

risk by not smoking, drinking in moderation, and eating a healthy, balanced diet such as a Mediterranean diet.

- Exercise on a regular basis to benefit your heart and blood vessels, including those that nourish the brain.
- Protect your head from injuries while engaging in activities such as riding bicycles and other sporting activities.
- Increase cognitive reserve (increased connections between nerve cells in the brain) by learning new things, participating in intellectually stimulating leisure activities such as card games or crossword puzzles and maintaining social networks that are meaningful and rewarding.
- Cultivate memory strategy habits such as making lists, keeping a day-timer, writing down people's names and so on.

Researchers hope to increase the ability to predict MCI outcomes by developing new diagnostic tools to identify and measure underlying brain changes linked to specific types of dementia. For example, there is now early evidence on the potential benefits of cognitive behavioural therapy for treating lifestyle factors that lead to increased risk of developing MCI.

Treatment of MCI

Currently, there are no approved drugs or treatments specifically approved by Health Canada for MCI. However, MCI is an active area of research. Clinical studies are under way to find treatments that may improve symptoms or prevent or delay progression to dementia. Doctors sometimes prescribe cholinesterase inhibitors, a type of drug approved for Alzheimer's disease for people with MCI whose main symptom is memory loss. However, cholinesterase inhibitors are not recommended for routine treatment of MCI because they do not appear to provide lasting benefit.

It is important that you contact your local Dementia Society to obtain information and support so that you can plan ahead and learn coping strategies for



memory impairment. They will also be able to provide information about helpful resources in your community.

Things to remember:

- MCI is difficult to diagnose for even the most experienced clinicians.
- Half a million Canadians aged 65-and-older have MCI, but many do not know it.
- MCI does not always lead to Alzheimer's disease. Some people with MCI will stabilize and others may even improve in their cognitive abilities.
- The main benefit of diagnosing MCI is that it helps to identify people who are at increased risk of developing dementia.
- Contact your local Dementia Society. You are not alone!

Resources:

- MCI Mayo Clinic: www.mayoclinic.com
- Baycrest News MCI, 2012: www.baycrest.org
- Book by Nicole Anderson, Kelly Murphy, Angela Troyer "Living with Mild Cognitive Impairment": <http://www.alzheimer.ca/en/About-dementia/Dementias/What-is-dementia/Mild-Cognitive-Impairment>