

What is dementia?





WHAT IS DEMENTIA?

Dementia is the name given to a condition that occurs when a person progressively loses mental ability, including the ability to remember, think and reason.¹ Dementia can affect memory, decision-making, problem-solving, learning and the ability to care for oneself.¹ It refers to a group of symptoms caused by a number of diseases or conditions that affect the way the brain works, including Alzheimer Disease. It has been estimated that about 450,000 Canadians over age 65 have Alzheimer Disease or related dementias.² By 2031, over 750,000 Canadians are expected to have some form of dementia.² Rates of dementia increase with age: 1 in 13 Canadians over age 65 has Alzheimer Disease or a related dementia; this number rises to 1 in 3 Canadians over age 85.²

Signs and Symptoms of Dementia

Dementia itself is not a disease — it's group of symptoms caused by a number of diseases or conditions that affect the brain. Many types of dementia exist; some are progressive and permanent, while other types can be treated and reversed.

Mild dementia

Signs and symptoms of **mild** dementia³ can be subtle and may include one or more of the following:

- ▶ Asking the same questions over and over again.
- ▶ Having trouble finding the right words to communicate.
- ▶ Recognizing faces of people but struggling with names.
- ▶ Having trouble with complex tasks (like balancing chequebook).

Moderate dementia

Signs and symptoms of **moderate** dementia³ are more obvious and can include the following:

- ▶ Having trouble learning new things.
- ▶ Becoming lost when away from home.
- ▶ Showing personality and behaviour changes.
- ▶ Becoming more silent and withdrawn or physically/verbally aggressive.
- ▶ Misidentifying family members.

Severe dementia

Signs and symptoms of **severe** dementia³ are extremely noticeable and can include any or all of the following:

- ▶ Inability to perform basic activities, such as washing, dressing, eating and using the toilet.
- ▶ Loss of memory for recent and remote events.
- ▶ As the dementia progresses, difficulty swallowing, walking, standing or sitting.

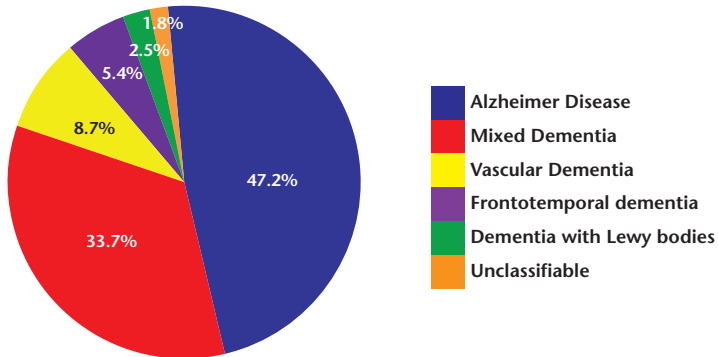
CAUSES AND TYPES OF DEMENTIA

Brain tumours, depression and alcohol dependence can cause dementia, but these types of dementia can be reversed with appropriate treatment. Irreversible dementia is more common in the elderly and may be caused by many different illnesses. The more common dementia types discussed below include:

- ▶ Alzheimer Disease
- ▶ Pure vascular dementia
- ▶ Mixed dementia (Alzheimer Disease and cerebrovascular disease)
- ▶ Lewy Body dementia
- ▶ Parkinsonian dementia
- ▶ Mild cognitive impairment (MCI)

The chart below shows a breakdown of the different types of dementia in Canada.⁴

Types of dementia



ALZHEIMER DISEASE

What is it?

Alzheimer Disease is the most common cause of dementia.³ There is no cure for Alzheimer Disease, which is a progressive, degenerative disease. It is the result of the loss of nerve cells in the areas of the brain that are vital to memory and other mental functions.^{5,6} There are several changes that occur in the brains of people with this disease:

- ▶ The brain cells shrink or disappear and are replaced with dense, irregularly shaped spots or “plaques.”^{5,6}
- ▶ Thread-like tangles appear within existing brain cells, which eventually choke healthy brain cells.^{5,6}
- ▶ Individuals with Alzheimer disease also have lower levels of brain chemicals that carry messages back and forth between nerve cells.⁶

What causes it?

The exact cause of Alzheimer Disease is not yet known, but researchers do know that⁷:

- ▶ It is not a part of normal aging.
- ▶ It affects both men and women.
- ▶ It is more common in people as they age.
- ▶ It is not caused by hardening of the arteries.
- ▶ It is not caused by stress.

Researchers also believe that there is no single cause of Alzheimer Disease; rather, it is a combination of factors. The three areas that are being researched as possible causes include⁷:

- ▶ Family history (looking at the connection between family history and genetics and their links to Alzheimer disease).
- ▶ The external environment (maybe the cause of the disease is our environment through water, soil or air).
- ▶ The internal environment (it may be caused by a slow virus, an imbalance of chemicals in the brain or problems with the immune system).

What are the symptoms?

The Canadian Alzheimer Society has developed a checklist of common symptoms to look for in someone who may be developing Alzheimer Disease⁸:

- ▶ Memory loss that affects day-to-day function.
- ▶ Difficulty performing familiar tasks.
- ▶ Problems with language.
- ▶ Disorientation of time and place.
- ▶ Poor or decreased judgment.
- ▶ Problems with abstract thinking.
- ▶ Misplacing things.
- ▶ Changes in mood and behaviour.
- ▶ Changes in personality.
- ▶ Loss of initiative.

An individual who exhibits several symptoms from the list above should be seen by a doctor for a complete examination.

What are the treatment options?

There is no cure for Alzheimer Disease, but there are medications that treat symptoms in people with mild to moderate disease. These drugs help some people do better with the activities of daily living, including bathing, eating and dressing, and may also help them with memory and language abilities.

The brain is made up of billions of nerve cells, constantly communicating with one another through chemical “messengers.” Research has shown that people with Alzheimer Disease have decreased levels of one of the most important chemical messengers called acetylcholine (pronounced “a-set-al-ko-leen”).⁶ Current medicines for treating Alzheimer Disease focus on increasing the levels of acetylcholine in the brain. Because they improve the communication between brain cells, these medications can maintain or improve people’s memory and day-to-day functioning or help slow the progression of symptoms.⁶

Treatment plans for someone diagnosed with Alzheimer Disease often include regular visits to a doctor, taking prescribed medications to increase acetylcholine levels in the brain and finding support from family and within the community (e.g. Alzheimer support groups).

The three prescription medications used to treat mild to moderate Alzheimer disease are:

- ▶ Aricept⁹
- ▶ Exelon¹⁰
- ▶ Remyinyl¹¹

The prescription medications that may be used to treat moderate to severe Alzheimer disease are:

- ▶ Aricept⁹
- ▶ Ebixa^{12*}

* FOOTNOTE: This medication has a market authorization with conditions to reflect the promising nature of the clinical evidence and the need for a confirmatory study to verify the clinical benefit

PURE VASCULAR DEMENTIA

What is it?

Vascular dementia is second to Alzheimer Disease as the leading cause of progressive irreversible dementia in Canada.¹³ Like Alzheimer Disease, rates of vascular dementia increase with age, and it is common in both men and women. People who have had a stroke are nine times more likely to have vascular dementia than the general population.¹⁴

What causes it?

Stroke is a common cause of vascular dementia.¹³ stroke occurs when blood flow in the brain is blocked. When this occurs, the brain cells do not get enough oxygen, and they die. Strokes can be large or small, and each stroke can make the problem worse.¹³

Vascular dementia is preventable, since strokes can be prevented. For this reason, it is important to know the risk factors for vascular dementia: age over 65, high blood pressure, heart disease and diabetes.¹³ As well, the risk factors for stroke itself should be monitored, including being overweight, smoking, high cholesterol levels and a family history of heart disease.¹³ Mini-strokes (called “transient ischemic attacks”) are often warning signs that a stroke is about to happen.¹³

A person’s risk of stroke and vascular dementia can be reduced by¹³:

- ▶ Adopting a healthy lifestyle (including exercise, eating well, not smoking, reducing stress).
- ▶ Taking medications to control high blood pressure, diabetes and heart disease.

What are the symptoms?

Vascular dementia appears immediately following a stroke. One year after a stroke, 25% of patients develop dementia; within 4 years, the risk of dementia is 5.5%.¹⁴ Vascular dementia is associated with a higher risk of death than Alzheimer disease, probably because of the vascular disease that led to the stroke.¹⁴

Strokes may alter a person's ability to walk, cause weakness in an arm or leg and cause slurred speech or emotional outbursts.¹⁵ Vascular dementia may occur over time and progress to the point where mental function can get worse, stabilize for a time and then get worse again.¹³ The symptoms from the dementia may vary from person to person, depending on what area of the brain was affected by the stroke, but may include changes in a person's language, vision or memory.¹⁵

What are the treatment options?

After a person has a stroke, medication may be prescribed to improve blood flow to the brain and reduce the risk of further strokes.¹³ The main treatment strategy for vascular dementia is to try to prevent further strokes. The person may also be offered different treatments to help with movement and speech, including physiotherapy, occupational therapy and speech therapy.¹³ Researchers are also looking at the use of cholinesterase inhibitors (the drugs used to treat Alzheimer Disease) as a treatment option.¹³

MIXED DEMENTIA

What is it?

Alzheimer Disease and vascular dementia are the most frequent causes of dementia in older people,³ but some people who both disorders, or "mixed dementia." At present, we do not know how common mixed dementia is, since most people are diagnosed with either Alzheimer Disease or vascular dementia.

What causes it?

Very little is known about the causes of mixed dementia, but the risk factors of Alzheimer Disease and vascular dementia have been extensively studied. There is some evidence that treating risk factors for heart disease and stroke (e.g., high blood pressure, heart disease, diabetes) may help to prevent mixed dementia.¹⁶ Researchers are also beginning to find links between vascular dementia and Alzheimer Disease: the process that leads to the development of Alzheimer Disease may happen because of blocked arteries; conversely, the “plaque” buildup in the blood vessels of the brain as a result of Alzheimer Disease may put people at risk of stroke.¹⁶

What are the symptoms?

Mixed dementia may show symptoms similar to either Alzheimer Disease or vascular dementia, or a combination of both. Some experts recommend suspecting mixed dementia when a person has evidence of heart disease/stroke and dementia symptoms that slowly get worse.¹⁷

What are the treatment options?

Few studies have actually looked at the prevention and treatment of mixed dementia. Since the vascular dementia component can be prevented by treating conditions such as high blood pressure, researchers have suggested that controlling risk factors of vascular dementia may lower a person’s risk of developing mixed dementia. Cholinesterase inhibitors (the drugs used to treat Alzheimer Disease) are being studied as a possible treatment option.^{16,17}

LEWY BODY DEMENTIA

What is it?

Dementia with Lewy bodies is a common cause of dementia in elderly adults and accounts for 15 to 20% of all dementia.¹⁸ It is generally found in older people: age of onset ranges from 50 to 83 years of age; men are slightly more at risk.¹⁹ Lewy bodies are abnormal protein deposits in the brain¹⁸; areas of the brain involved in thinking and movement are most affected.¹⁸ There is no cure for dementia with Lewy bodies.¹⁸ This type of dementia comes with symptoms similar to both Alzheimer disease and Parkinson's Disease.¹⁸

How is it caused?

It is not known why Lewy bodies develop, or what puts people at risk.¹⁸ If a family member has the disease, there may be an increased risk of developing it.¹⁸

What are the symptoms of Lewy body dementia?

Similar to the symptoms found with Alzheimer Disease, dementia with Lewy bodies includes gradual loss of memory, language, reasoning and other higher mental functions, such as calculations.¹⁸ The person may also have difficulty with short-term memory and staying on topic, and experience depression and anxiety.¹⁸ Lewy body dementia progresses quickly; delusions and hallucinations are common, and often delusions are based on a recollection of earlier hallucinations.¹⁸

An individual with Lewy body dementia may also have features of Parkinson's Disease, including rigidity (stiffness of muscles), tremors (shaking), stooped posture and slow shuffling movements.¹⁸

What are the treatment options?

There is no cure for Lewy body dementia, but it is possible to treat some of the symptoms of the disease, including depression and hallucinations. At present, cholinesterase inhibitors (the drugs used to treat Alzheimer Disease) are being researched as a possible treatment option for Lewy body dementia.¹⁸

PARKINSONIAN DEMENTIA

What is it?

Parkinson's disease is a slow, progressive illness that affects the nerve cells in the part of the brain that controls muscle movement.²⁰ It is characterized by tremor, slowness, stiffness, rigidity of muscles and difficulty with balance.²¹ In Canada, nearly 100,000 people have Parkinson's.²⁰ The symptoms of Parkinson's generally appear around age 60, although people in their 30s and 40s are also affected by it.²⁵

What causes it?

Parkinson's is a neurodegenerative disease, meaning that it affects the functions of the brain and symptoms of the illness become worse over time. Movements in our bodies are normally controlled by a chemical called dopamine, which carries signals between the nerves in our brain.²⁰ As with most diseases that affect the brain, the exact cause of Parkinson's is not known. We do know that in Parkinson's disease, the body cannot produce enough dopamine because many of the cells that produce dopamine die.²⁰ Some researchers believe that an interaction between genetic and environmental factors may lead to Parkinson's disease.²²

What are the symptoms?

The symptoms of Parkinsonian dementia are similar to those of Alzheimer Disease, but they occur in a different order.²³ Mental slowing is often seen in the early course of Parkinsonian dementia, and hallucinations often occur early as well.²³ Indeed, in Parkinson's Disease, hallucinations can be an early sign of dementia.²³ People with Parkinsonian dementia may show mild memory impairment.²³ They may also show large changes in attention and alertness from day to day.²³

MILD COGNITIVE IMPAIRMENT (MCI)

What is it?

Mild cognitive impairment (MCI) is a condition in which a person has problems with memory, language or other mental function that are severe enough for other people to notice, but not serious enough to interfere with daily life.²⁴ In general, a person with MCI experiences memory problems greater than normally expected with aging, but does not show other symptoms of dementia, such as impaired judgment or reasoning.²⁵

What causes it?

There may be more than one underlying cause for MCI, but the various potential causes can be grouped into the following categories²⁶:

- ▶ Neurodegenerative: a disorder that gradually destroys brain cells (e.g. Alzheimer Disease, Lewy body dementia).
- ▶ Vascular: a disorder that affects the blood vessels of the brain, causing cell damage and death (e.g. vascular dementia).
- ▶ Psychiatric: conditions that affect memory, concentration and mood (e.g. depression).
- ▶ Trauma: a physical injury to the brain.

There is still much to learn about MCI. Some research suggests that MCI is simply an early stage of another form of dementia. Other research has shown that while some people with MCI progress to other forms of dementia, some do not, and some may even return to normal.²⁵

What are the symptoms?

The main symptom of MCI is short-term memory loss, but the criteria for diagnosis of MCI are still being developed. Most often doctors look for generally normal judgment, perception and reasoning skills; generally normal activities of daily living; but lower performance on memory tests compared to people of similar age and educational background.²⁶

What are the treatment options?

At this point, there is no standard approach to the treatment of MCI.²⁵ Most often, physicians will watch carefully for changes in memory and thinking skills that might show worsening of symptoms or the development of mild dementia.²⁵ Two studies have looked at whether treating MCI might prevent or delay progression to Alzheimer Disease. In one, treatment had no effect; in the other, the results were not strong enough to make a treatment recommendation.²⁵

COPING WITH DEMENTIA

For many, losing their memory and intellectual abilities can be traumatic and may affect many parts of their life. It is important that affected individuals take control of their life as much as they can and help themselves and others around them. Here are some tips that may help people cope with dementia.

Take notice and notes

Remembering things may become difficult, so keeping alert and helping people notice things around them is important. Repeating people's names over and over again upon meeting them may make it easier to connect names with faces. Taking notes can also be useful, since writing down messages can help individuals remember things.

Get organized

Keeping things organized and in their proper place may help people remember where they have put things. A regular routine may help them remember what they should be doing.

Use a diary

Writing things down in a diary and journaling daily activities will help individuals keep track of things that have happened. An appointment diary can be used to keep track of upcoming events.

Keep active

A healthy mind depends on a healthy body; that means getting regular exercise, eating and drinking in moderation and not smoking. People should have regular checkups for vision and hearing, so that they are aware of their surroundings and what is being said around them. They should try to avoid encouraging sleeping tablets or tranquillizers so that they can be more alert.

Have regular checkups

Most doctors do regular health checks of their elderly patients, not only for physical health but also to diagnose conditions such as Alzheimer Disease. They should see their doctor on a regular basis to make sure that all is well with their mental health.

Use your mind

Hobbies such as quizzes, crosswords, reading and card games can keep people's mind busy and lessen the effects of memory loss.

Reality orientation

People with dementia need help remembering where they are, what day/time it is, and what is happening. Continually repeating this information can help with recall.

Mnemonics

People should be encouraged to use short rhymes or other mental tricks to help remember things.

External aids

These may include tricks such as putting pills near a toothbrush to remind individuals to take their medications when brushing their teeth, or leaving things by the front door to remind people what they need to take with them. Alarm clocks are also good tools to remind people of what they need to do.

COMMUNICATION TIPS FOR CAREGIVERS

Living with someone with dementia can be frustrating, confusing and stressful. Here are some tips on how to communicate with someone who has dementia.²⁷

Set the stage

Communicating is always easier if other things are not happening at the same time. When trying to get your message across, reduce distractions (e.g., turn the TV or radio off).

Get the person's attention

Approach the person slowly and from the front. Gently touch a hand or arm to help get his or her attention. Wait until he/she seems ready to listen.

Make eye contact

Sit facing or standing in front of the person, if possible. If it is culturally appropriate, keeping eye contact will help the person remember who is speaking and concentrate on the message.

Speak slowly and clearly

Use simple words and short sentences. If the person has hearing problems, lower the pitch of your voice rather than speaking loudly.

Give one message at a time

Keep a conversation simple. Too many thoughts or ideas at one time can be confusing.

Pay attention

Watch facial expressions and body movements. Respond to moods and emotions, especially when the words don't make sense or are inappropriate.

Repeat important information

If you are uncertain the message was understood the first time, repeat it using the same words.

Show and talk

Use actions as well as words. For example, if it is time to go for a walk, point to the door or bring the person's coat or sweater to illustrate what you mean.

Take time

Allow the person time to respond. Interrupting can discourage further communication.

RESOURCES AND MORE INFORMATION

Contact any of the following organizations for more information on dementia and the various types of illnesses that can cause it.

Alzheimer Society of Canada

1-800-616-8816

www.alzheimer.ca

Canadian Mental Health Association

613-745-7750

www.cmha.ca

Centre for Addiction and Mental Health

416-535-8501

www.camh.net

Dementia Advocacy and Support Network (DASN International)

www.dasninternational.org

Heart and Stroke Foundation of Canada

www.heartandstroke.ca

Internet Mental Health

www.mentalhealth.com

Lewy-Net

www.nottingham.ac.uk/pathology/lewy/lewyhome.html

Parkinson Society Canada

1-800-565-3000

www.parkinson.ca

REFERENCES

1. Alzheimer Society of Canada website. Related dementias. Available at: www.alzheimer.ca/english/disease/dementias-intro.htm. Accessed July 30, 2008.
2. Alzheimer Society of Canada website. Statistics. Available at: www.alzheimer.ca/english/disease/stats-intro.htm. Accessed July 30, 2008.
3. Dementia. In: *Merck Manual of Geriatrics*. Available at: www.merck.com/mkgr/mmg/sec5/ch40/ch40a.jsp. Accessed July 30, 2008.
4. Feldman H, Levy AR, Hsiung G-Y, et al. A Canadian cohort study of cognitive impairment and related dementias (ACCORD): study methods and baseline results. *Neuroepidemiology* 2003;22:265-274
5. *What is Alzheimer's Disease?* Toronto, ON: Alzheimer Society of Canada; 2008.
6. Blennow K, de Leon MJ, Zetterberg H. Alzheimer's disease. *Lancet* 2006;368:387-403.
7. Alzheimer Society of Canada website. Causes of Alzheimer's Disease. Available at: www.alzheimer.ca/english/disease/causes-intro.htm. Accessed July 30, 2008.
8. *Is It Alzheimer's Disease? 10 Warning Signs*. Toronto, ON: Alzheimer Society of Canada; 2008.
9. Aricept [product monograph]. Kirkland, QC: Pfizer Canada Inc.; 2007.
10. Exelon [product monograph]. Dorval, QC: Novartis Pharmaceuticals Canada Inc.; 2007.
11. Reminyl [product monograph]. Toronto, ON: Janssen-Ortho Inc.; 2008.
12. Ebixa [product monograph]. Montreal, QC: Lundbeck Canada Inc.; 2004.
13. Alzheimer Society of Canada website. Vascular dementia. Available at: www.alzheimer.ca/english/disease/dementias-vascular.htm. Accessed July 30, 2008.
14. Alagiakrishnan K. Vascular dementia. Available at: www.emedicine.com/med/topic3150.htm. Accessed July 30, 2008.
15. Heart and Stroke Foundation website. Effects of stroke. Available at: www.heartandstroke.on.ca/site/c.pvi3leNWJwE/b.3581869/. Accessed July 30, 2008.
16. Langa K, Foster NL, Larsen EB. Mixed dementia: emerging concepts and therapeutic implications. *JAMA* 2004;292:2901-2908
17. Alzheimer's Association website. Mixed dementia. Available at: www.alz.org/alzheimers_disease_mixed_dementia.asp. Accessed July 30, 2008.
18. Alzheimer's Association website. Lewy body dementia. Available at: www.alzheimer.ca/english/disease/dementias-lewy.htm. Accessed July 24, 2008.
19. McKeith I.G. Dementia with Lewy bodies. *Br J Psychiatry* 2002;180:144-147.
20. *Parkinson's: The Facts*. Toronto, ON: Parkinson Society of Canada; 2003. Available at: www.parkinson.ca/pdf/TheFacts-Eng.pdf. Accessed July 29, 2008.
21. Parkinson Society of Canada website. What is Parkinson's? Available at: www.parkinson.ca/en/3.0.what_is_parkinsons.htm. Accessed July 30, 2008.
22. Guttman M, Kish SJ, Furukawa Y. Current concepts in the diagnosis and management of Parkinson's disease. *CMAJ* 2003;168:293-301.
23. DementiaGuide website. Types of dementia: Parkinson's disease. Available at: www.dementiaguide.com/aboutdementia/typesofdementia/parkinsons. Accessed July 30, 2008.
24. Alzheimer's Association website. Mild cognitive impairment. Available at: http://www.alz.org/alzheimers_disease_mild_cognitive_impairment.asp. Accessed July 30, 2008.
25. *Mild Cognitive Impairment*. Chicago, IL: Alzheimer's Association; 2006.
26. Mayo Clinic website. Mild cognitive impairment. Available at: www.mayoclinic.com/health/mild-cognitive-impairment/DS00553. Accessed July 30, 2008.
27. Alzheimer Society of Canada website. Daily living: communication. Available at: www.alzheimer.ca/english/care/dailyliving-communication.htm. Accessed July 30, 2008.

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JANSSEN-ORTHO

19 Green Belt Drive,
Toronto, Ontario M3C 1L9



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