



## Did you know that... Psychology works for Cognitive Disorders and Dementia

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### What is cognition?

**Cognition** is the ability of your brain to think, to process and store information, to solve problems. Cognition is a high level of behaviour unique to humans. This behaviour is disrupted by an illness such as Alzheimer's Disease.

### What is a dementia?

**Dementia** is a label for a cluster of symptoms involving deterioration in behaviours such as memory, language, and reasoning. The deterioration results from a disease process in the brain. The disease progresses from mild through severe stages and interferes with the ability to function independently in everyday life. Dementias are fatal medical diseases that have major psychosocial consequences.

### Is dementia like normal aging? The answer is NO!

**Only 7.8% of the Canadian population** after 65 years of age have a form of dementia. After 85 years of age, however, the proportion jumps to 37%. The first symptom usually noticed by patients and their family is a problem with memory. Remember that **this problem is severe** and not a normal part of aging, i.e., putting your keys in the fridge, forgetting the name of your daughter. It is not the same as the forgetfulness we all experienced when we are tired, depressed, or on medications.

### What conditions result in dementia?

**Many different conditions can result in dementia** in later life. The most common is Alzheimer's Disease, accounting for about 50% of all cases. The next most common is vascular dementia.

**Alzheimer's Disease** involves a gradual change in the neurons, or nerve cells in the brain. There are tangles inside the nerve cell and degenerating nerve endings. Other deficiencies also occur in the neurotransmitters, the chemical messengers that allow brain cells to send signals to each other.

**Vascular dementia** involves repeated damage to areas of the brain caused by blockages in the blood vessels (small strokes). Vascular dementia is what used to be referred to as hardening of the arteries.

### Some of the conditions that result in dementia include:

- Alzheimer's disease
- Limbic encephalitis
- Vascular dementia
- Heavy metal exposure

Lewy body disease  
Normal pressure hydrocephalus  
Parkinson's disease  
Post-traumatic dementia  
Pick's disease  
Multiple sclerosis  
Jakob-Creutzfeldt disease  
Idiopathic basal ganglia calcification  
Neurosyphilis  
Acquired immune deficiency syndrome (AIDS)  
Fungal infections  
Tuberculosis  
Progressive supranuclear palsy  
Huntington's disease

### Are some dementias reversible?

Yes, if the dementia results from some of the following conditions, for example:  
depression  
drug intoxication  
metabolic and nutritional imbalance  
infection and fever  
cardiovascular disorders  
neurological disturbances (i.e., vascular, infectious)

### What is the difference between a cortical and subcortical dementia?

**Dementia** is classified as cortical or subcortical depending on the area of brain affected.

**Cortical dementia** causes problems in memory, thinking, and language. Alzheimer's Disease is a disorder that causes cortical dementia. The cognitive problems, depending on their nature, are called aphasia, apraxia, amnesia, and agnosia. These problems may include difficulty finding words, difficulty comprehending written or spoken material, and even mutism. Speech, which is the machinery for sound, is usually normal; however, it is the language component that breaks down. The memory problem is often an inability to learn new information. **Insight** into the condition is usually absent and a person's mood is unconcerned or uninhibited. The motor system is normal, at least in the early stages.

**Subcortical dementia** affects parts of the brain below the cortex and is characterized by slowing, difficulty in retrieving information from memory, and altered mood. Parkinson's disease and multiple sclerosis are examples of a condition that can result in a subcortical dementia. Language ability is usually normal, although speech is dysfunctional and the motor system may result in stooped or extended posture, increased muscle tone, and tremors. Memory problems are due to a difficulty in retrieving information that is in fact learned. The person's mood may be either apathetic or depressed, and insight into the condition is usually present.

## Do we know what causes Alzheimer's Disease?

**There is still no answer** to this question, but there are many promising leads. There is probably more than one cause. Some think it's genetic and others that it's due to something in the environment such as aluminum. It could also be a slow-acting virus. A lot of research is currently going on to uncover the cause or causes. Research is also exploring potential treatments for the symptoms, such as correcting the chemical imbalances.

## Psychologists can help

**The consequences** of various dementias are severe cognitive disorders (like memory, language, perception) due to underlying neurological diseases. Unfortunately there is no medical cure for most dementias. **Psychologists have much to offer** to help assess spared and impaired cognitive dysfunctions not only to help tackle the various disease processes through clinical research but also to help design intervention programs that minimize the effects of cognitive disabilities. Some of the questions a psychologist can help with are:

- cognitive impairments and how they relate to brain functions;
- the impact of cognitive impairments on everyday activities: what to expect;
- when it is best to remediate impairments, when to compensate for them and how to do both;
- how to help someone with cognitive impairments;
- ways to cope as family members, friends or care providers;
- ways to help as family members, friends or care providers
- the spared functions and strengths that can be used to compensate for cognitive losses;
- the differences between remediation, compensation and functional skills training and when to use each;
- how to accommodate to cognitive changes and how to adjust interventions according to the natural history of the particular neurological condition;
- how to access good educational information and community support services.

For more information check: <http://partners.senecac.on.ca/baycrest>.

**Consultation with or referral to a registered psychologist** can help guide you as to the use of these therapies. For a list of psychologists in your area, <http://www.cpa.ca/Psychologist/>.

*This summary has been created for the Clinical Section of the Canadian Psychological Association by Dr. Guy-B. Proulx, Director, Department of Psychology, Baycrest Centre for Geriatric Care.*

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