

MS has the potential to affect brain function—personality, emotions and intellect (**cognition**) either directly or indirectly. Cognition is sensitive to many potentially disruptive factors including normal aging, disease or injury. It can also be affected by tension, emotional stress, depression, sleep disturbance, menopause, low blood sugar, medications, substance abuse or fatigue. Many of these factors can, and do occur in combination. Approximately 50% of people with MS will develop problems with cognition. The first step to take in dealing successfully with cognitive problems caused by MS is to learn the facts.

.....

Cognitive functions affected by MS

Memory or recall problems are the most frequently reported. Memory loss seems to be confined largely to recent events. Two types of memory processes may be faulty, the ability to recall information that has been learned and stored and, trouble learning in the first place. Not being able to learn certain facts will make it difficult to recall them later.

Speed of information processing – Both recall and verbal fluency skills require rapid processing of information. Slowness in mental speed, or ‘delayed information processing speed’, is the main cognitive problem linked to MS.

Abstract reasoning and problem-solving abilities – Problem solving is multi-faceted and includes analyzing a problem, identifying the components that need altering, planning a sequence of events to bring about the change, and finally putting the pieces together to effect the change.

Visual-spatial abilities – These include the ability to recognize objects accurately and to draw or assemble things. Visual-spatial abilities are involved in many everyday tasks such as driving, finding one’s way around, or packing a suitcase.

Verbal fluency – A fluency problem often shows itself as the “tip-of-the tongue” phenomena. A person wants to say a word, it’s on the tip of the tongue, but s/he just can’t think of it.

Causes of cognitive problems

Studies using **magnetic resonance imaging (MRI)** have demonstrated a clear relationship between the presence of MS lesions and cognitive problems. More recent research has shown that MS can cause a reduction in brain size (or atrophy). This atrophy is also closely linked to the presence of cognitive difficulties and may be a more likely cause of cognitive problems than brain lesions.

Detecting cognitive problems

If cognitive problems are suspected, a neuropsychological evaluation may be required. This is carried out by a qualified neuropsychologist, a specialist in behavioural changes caused by brain disease or trauma, preferably one who has had experience with people with MS. A psychologist without this training may have difficulty selecting the proper tests and interpreting the results.

Other factors such as depression and fatigue can also cause cognitive problems. Depression, which is common in people with MS, can be treated successfully with drugs and/or psychotherapy. Fatigue, which may also lead to a person complaining of cognitive problems, may be helped by medication too. Intellectual change arising directly from MS may be helped through cognitive rehabilitation strategies. The choice of appropriate treatment therefore depends on the right diagnosis.

Treatment for cognitive problems

Medication

Research concerning the use of medications is ongoing and a couple of studies have yielded modestly promising results. Speak with your doctor about current medications used to manage cognitive issues.

Cognitive Rehabilitation

Cognitive rehab is designed to help people compensate for loss of memory or slowed learning ability. It is provided by neuropsychologists, occupational therapists, or speech/language pathologists. If you or a loved one thinks you might benefit from cognitive rehabilitation, speak to your doctor for more information.

What can be done to alleviate cognitive problems?

Get it out in the open. Talk over your concerns with your doctor or nurse.

Share with others. Very often, fears about a problem are much worse than the reality. To keep up with the facts, ask questions, read, attend lectures if possible, and talk to others who have similar problems.

Make it a family affair. Family members may not realize that the person with MS has some cognitive problems. When the person with MS forgets parts of conversations, misses appointments, or misplaces things, it may be viewed as laziness, indifference or carelessness. Family members and friends need help to develop an understanding of what is going on.

Get counselling if it seems appropriate.

Not everyone who experiences a few memory lapses needs counselling. However, counselling or psychotherapy do help people deal with the impact cognitive problems have both on self-esteem and on practical everyday living.

Explore self-help options. Here are some practical suggestions:

- Where memory is weak, use a loose-leaf organizer or electronic device as your information centre.
- Set up a family calendar to track everyone's commitments.
- Assign a particular place for storing frequently used items such as your car keys.
- Encourage family members to return borrowed objects to their proper spots. For example, the scissors always go in the top drawer of the desk.
- Plan your most challenging intellectual tasks for your best time of day. **Cognitive fatigue** refers to a temporary decline in cognitive functioning following an extended period of intellectual effort. Rest periods will also help you avoid this form of fatigue.
- When you encounter word-finding problems, don't persist in trying to think of that elusive word. Shift your attention to something else, the word will come back to you later.

Clearing up misconceptions about cognitive dysfunction in MS

Misconception	Fact
MS does not affect the intellect.	Most people with MS will never be troubled by severe intellectual problems, but mild problems are fairly common. Open discussion of this topic is needed in order to deal with it.
People who have cognitive problems are emotionally unstable, or have a mental illness.	Cognitive dysfunction is not an emotional or mental disorder. While emotional problems such as depression or anxiety can adversely affect intellect, cognitive problems should not automatically be attributed to these causes.
Cognitive functioning can be assessed by asking a few simple questions.	Cognitive function must be assessed using a battery of standardized tests administered and interpreted by someone with the proper training.
All people with MS should have a detailed cognitive assessment.	Not at all. A comprehensive assessment is necessary only if problems occur and then only after thorough consultation to rule out other factors.
When cognitive problems appear, they worsen rapidly.	Although very few long-term studies have been completed, clinical experience so far suggests that these problems progress slowly.
Cognitive problems only occur in people who are severely disabled.	On the contrary, people who are severely disabled physically may have no cognitive problems at all. Studies have shown that there is only a very weak relationship between extent of physical disability and cognitive dysfunction in MS.
Cognitive problems only occur late in the course of MS.	Researchers found that there is little relationship between duration of MS and the severity of cognitive dysfunction.

Clearing up misconceptions about cognitive dysfunction in MS cont'd

Misconception	Fact
Cognitive problems only occur in people with progressive MS.	Cognitive dysfunction is likely to be somewhat worse in people with progressive MS. Memory deficits appear to be common among persons with relapsing-remitting MS. Individuals with any kind of MS can experience cognitive problems.
MS relapses do not affect cognitive functions.	Not true. People with MS can have attacks in which cognitive problems become dramatically worse very quickly. The problems can then improve as remission proceeds.
People with MS-related cognitive problems have euphoria.	Euphoria involves exaggerated and unrealistic expressions of happiness, often accompanied by a lack of concern about oneself. Euphoria is rare, affecting approximately 10% of the MS population. It occurs almost exclusively in people with the most severe cognitive impairments.
Cognitive problems in MS are similar to Alzheimer's disease.	No. MS bears little resemblance to Alzheimer's disease. MS-related cognitive dysfunction is almost never as severe as Alzheimer's. MS-related cognitive problems are usually limited to the functions discussed in this resource. The problems may stabilize at any time, and no further progression will occur.

How to reach us

Call toll-free in Canada: **1.800.268.7582**
 MS Society of Canada Web: mssociety.ca
 Email: info@mssociety.ca