



Changes in memory and thinking

Around 50 to 66 per cent of people with MS experience some form of cognitive change. However, a healthy lifestyle, accessing support and adopting some practical solutions can help to manage this invisible symptom.

How can MS affect the mind?

Matters of the mind can be difficult to accept and talk about. However, more than half of the MS population will experience some form of change in cognitive function (thinking and memory), which is often described as 'fuzziness' or 'brain fog'.

This change can be caused by the MS disease itself (lesions in the brain interrupting the

transmission of electrical messages sent along nerve fibres, or other brain changes) or it can be caused by secondary symptoms (such as stress or fatigue) or issues unrelated to MS.

For most people with MS cognitive change is mild and can be managed effectively.

What changes can occur?

Cognitive changes in people with MS often involve problems with short-term memory, paying attention, speed of information processing, and executive functioning (e.g. difficulty with planning, problem-solving, abstract reasoning, flexibility of thought or insight).¹

The following are some everyday signs that a person with MS may be experiencing cognitive change:

- Slow to solve problems
- Forgetting appointments
- Asking to have directions repeated
- Needing to be reminded to do tasks
- Unable to multi-task
- Missing the point of conversations
- Overly emotional
- Talking excessively about personal interests.²

These difficulties can take place at any time during the course of one's MS. However, cognitive impairment and its development depends mostly upon how 'active' the MS is

within one's brain tissue. Some cognitive changes are temporary (easing when a relapse subsides) and some are more permanent. It's important to note that cognitive and physical impairment in MS (such as problems with walking or mobility) are not closely related.

Cognition can also be indirectly affected by other problems concerning the person with MS. For example, depression, anxiety, stress, pain, fatigue, lack of sleep and medication can all affect a person's cognitive function in a similar way to MS lesions. What this means is that it could be the psychological changes that are causing the reductions in thinking efficiency. If you identify with these types of psychological symptoms, assessment and treatment by your healthcare team could help improve cognitive performance. Likewise, proper diagnosis and management of physical symptoms (such as pain and bladder concerns) is crucial to reducing the effects of these symptoms on the mind.

Managing mental and physical fatigue is especially important. Fatigue and cognition often

go hand in hand – fatigue can alter thinking and memory, while intense periods of thinking can cause fatigue. As such, it is important to develop

healthy lifestyle routines that involve regular sleep, exercise, relaxation, and doing things that you enjoy.

How do I manage cognitive change?

It is important to identify any cognitive changes when they arise and seek the appropriate information, intervention and support to manage these changes.

Medication

Immunotherapy treatments can have a moderate effect on reducing the rate at which damage to the brain tissue occurs and, therefore, reducing the risk of significant cognitive impairment in people with MS.³ There are other medications that specifically target cognitive symptoms in other conditions; however, these are not always suitable or effective for people with MS. Further studies are currently underway (or planned) for treating cognitive change in people with MS. Always consult your neurologist about the most appropriate medication for you.

Get organised

You and your family can manage cognitive difficulties by ensuring that everyone is well organised. For example:

- Use a diary and a wall calendar
- Use reminder systems on your computer and/or mobile phone alerts
- Arrange to do more complicated tasks at the time in the day when you are most alert
- Keep a notebook that records important daily tasks, medication details, contact numbers, and so forth
- Develop and maintain a routine
- Do one thing at a time and allow yourself to complete tasks
- Keep important items in a specific place
- Keep distractions to a minimum
- Minimise interruptions by working in a private space and let your phone go to voicemail

- If you are interrupted, write down a one-word cue to assist you to stay on track.

Identify change and work to your strengths

It will be important to maintain meaningful roles in your life (for example, in the home or workplace) but work to your strengths and communicate with others about your needs.

Lifestyle adjustments

Simple lifestyle changes may be able to help reduce the risk of MS-related cognitive decline. Such changes could include limiting alcohol intake, quitting smoking, maintaining a balanced, healthy diet, keeping the mind active by learning new skills or hobbies, and maintaining a meaningful social life.

Regular exercise (appropriately structured with your healthcare team) is an important part of managing MS symptoms, decreasing stress and maintaining your overall wellbeing.

Technical resources

There are a variety of DVD and web-based computer games – often referred to as ‘brain training’ games – that are available commercially. While this is a popular concept and there is evidence that some of these games can improve brain functions related to the actual games, there is currently no evidence that brain training can delay or prevent the onset of MS-related cognitive change.

As such, if you choose to use brain training games, it is important to continue with the everyday cognitive strategies already outlined, and to keep your brain active and stimulated in ways you enjoy and that fit in with your lifestyle.

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Where can I get help?

If cognitive changes appear to be affecting important areas of your life, contact MS Australia – ACT/NSW/VIC about assistance straight away.

Neuropsychologists can help to identify cognitive strengths and changes, and can suggest strategies to assist in managing these changes. Occupational therapists can also advise you on

how to adapt your environment so that it is more user-friendly. Our organisation also has a number of programs and resources to help people wanting more information about cognitive changes and MS.

To find out how to access these services, please call MS Connect on 1800 042 138.

Further reading and resources

- *Facing the Cognitive Challenges of MS*, By J Gingold (Demos, 2006)
- *How to Get Things Done: The Art of Stress-Free Productivity*, By D Allen (Penguin, 2007)
- *Mental Sharpening Stones: Manage the Cognitive Challenges of Multiple Sclerosis*, By J Gingold (Demos, 2009)
- *MS Essentials: Memory and Thinking*, By the UK MS Society (2008). Available at www.mssociety.org.uk
- *MS In Focus*, Issue 4: Emotions and Cognition, By the MS International Federation (2004). Available at www.msif.org
- *Multiple Sclerosis: Understanding the Cognitive Challenges*, By N LaRocca & R Kalb (Demos, 2006)
- *Phone in the Fridge: Five Years with Multiple Sclerosis*, By L Moorhead (Pathfinder, 2006)
- **Staying Smart:**
www.stayingsmart.org.uk
Developed by the UK MS Trust.

References:

1. The National MS Society. *Cognitive Function*. National MS Society Information Sourcebook 2006.
2. Benedict RHB, Munschauer FE, Linn R, Miller C, Foley FW, Jacobs LD. *Screening for multiple sclerosis cognitive impairment using a self-administered 15-item questionnaire*. *Mult Scler*. 2003;9.
3. Christodoulou C et al. *Treatment of cognitive impairment in multiple sclerosis*. *CNS Drugs*. 2008;22(2):87-97

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