Approximately 50-70% of people with multiple sclerosis (MS) experience a change in thinking abilities (also called cognitive abilities). The cognitive changes may be minor for some people but can be more challenging for others. Often these changes may not be noticeable to other people, which can make changes frustrating and challenging.

What is cognition?
Cognition is the act of knowing or thinking. It includes the ability to understand, pay attention, remember, make decisions, plan and use information.

What kind of cognitive problems can happen with MS?
- Problems with memory are common.
- Thinking can become slower and more difficult.
- Completing simple tasks can require more concentration and time.
- Multi-tasking can become more difficult.
- Problems with communication have been reported by people with MS such as having difficulty remembering words or keeping up with the conversation.
- Generally, people with MS say they may be less efficient because of cognitive changes.

What causes cognitive problems for people with MS?
Just as lesions in the brain and spinal cord can affect physical function, lesions in the brain may have an impact on cognitive function. Other factors may also have an impact on cognition such as:
- Fatigue
- Depression
- Pain
- Prior head injuries
- Some medications

How do cognitive problems affect your daily life?
- Your participation in social relationships may be limited.
- You may not be as independent.
- If you have difficulties with attention and your thinking has slowed, driving may become dangerous.
- You may have problems managing your finances due to challenges staying organized and making decisions.
- It may be more difficult for you to continue working, or get a job. For example, you may have difficulty handling multiple demands on the job.
- You may experience additional anxiety and stress.
How can you learn about your cognitive strengths and weaknesses?

- A “brief cognitive evaluation” can be conducted by a psychologist or neuropsychologist (psychologist with expertise in brain function and structure) over approximately 2 hours and focuses specifically on areas of concern that are common to individuals with MS. This can help you get an overview of cognitive issues you may be facing. For some people, following the brief evaluation a full “neuropsychological evaluation” as described below may be recommended.

- A “comprehensive neuropsychological evaluation” is conducted by a neuropsychologist over 1-2 days. This evaluation involves you taking a series of standardized tests that assess specific brain functions like your memory. These tests aim to get a full picture of your cognitive strengths and weaknesses.

Knowing your cognitive strengths and weaknesses will help you and your health care provider identify the best strategies for addressing your cognitive changes. Strategies may include seeking additional support from other specialists such as a psychologist, speech therapist, or occupational therapist.

It is important to note that if the evaluation may be used for disability accommodations at work or school, or to determine disability status, specific tests may need to be given. People with MS should discuss these concerns with the neuropsychologist before being assessed.

What can you do on your own to address common cognitive problems?

While each issue below is described separately, people often experience more than one type of thinking problem at a time.

- Slower thinking speed.
  - Try to build in more time to your schedule to allow time to think about information.
  - Ask others to give you more time or to repeat information so that you have time to learn it.

- Difficulty with problem solving, planning and organizing complex tasks.
  - Use a step-by-step problem-solving strategy:
    1. define the problem
    2. brainstorm possible solutions
    3. list the pros and cons of each solution
    4. and pick a solution to try
  - To figure out the steps to complete a large or complex project, start at the end and work backwards.
  - Writing out a plan to complete a project in smaller manageable steps.

- Poorer attention and ability to concentrate.
  - Decrease distractions by working in quiet places.
  - Work on one task at a time.
  - Be well rested and take frequent breaks.

- Memory problems.
  - Use memory aids such as a 7-day pill box, posted reminder notes, and/or notebook or calendar to write down important information.
Have a specific place where you keep important items, such as a basket by the door of your home for your keys, wallet, and phone.

- Difficulty remembering the words you want to use.
  - Substitute a similar word or describe the intended word, as opposed to stopping a conversation in an effort to find the right word.

**As a general rule, you may also find that you are more efficient if you establish a predictable, daily routine.**

**Maintain an active and healthy lifestyle**

- Get physically active.
  - Research has shown that physical activity, such as walking, can help maintain good cognitive health and may prevent cognitive decline.
  - Physical activity can also help improve sleep, fight fatigue, and improve mood, all of which contribute to your cognition. (See factsheet on MS and Exercise).

- Engage in mentally stimulating activities you enjoy.
  - Reading a new book, doing crosswords or Sudokus.
  - Challenge yourself by learning something new.
  - Be socially active. Good conversation can stimulate new thinking.
  - Play an instrument or listen to music.

- Take frequent rest breaks during the day.
  - Some people find that resting in silence is most effective (turn off phone, TV, etc).

- Maintain a healthy diet. Eating right can help you avoid fatigue and increase your energy level.

- Improve your mood; depression can significantly affect your ability to think.

- Try to minimize stress and anxiety.

- Things to avoid: smoking, abusing alcohol, using illicit drugs, and misusing prescription or over-the-counter medications.

**Resources and References**

- Centers for Disease Control and Prevention: www.cdc.gov/aging/healthybrain

**Disclaimer**

This information is not meant to replace the advice from a medical professional. You should consult your health care provider regarding specific medical concerns or treatment.

**Authorship**

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