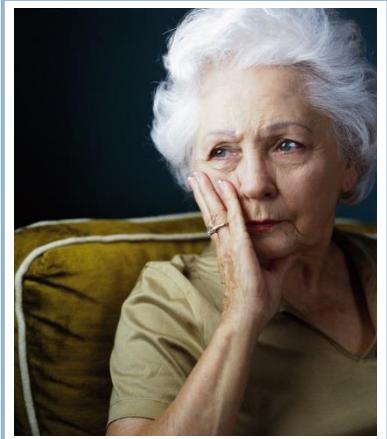


# Cognition

Life after a stroke is often marked by difficulty in the mental processes of understanding and using knowledge, known as cognition. Cognition affects how a person interacts in daily living with their environment. You might notice new behaviors in your loved one, such as trouble paying attention, becoming easily distracted, an inability to avoid inappropriate behavior, and repeating topics. These are all areas of behavior controlled by cognition.

There are **six main areas of cognition**: Memory, orientation, attention, organization, reasoning, and problem solving. Some or even all may be affected by a stroke.

**Memory** is the ability to pull up past information from the brain accurately and whenever the information is needed. Some memories are recalled easily without obviously needing to think, such as recognizing names and faces of family or the streets in your neighborhood. Other information may take more effort, such as phone numbers or recipes. Memory is closely connected to all of the other parts of cognition, so if a stroke affects memory, other thinking processes will be affected also.



**Orientation** is the ability to understand questions of who, what, when, where and why in your daily life. When orientation is affected, a stroke survivor may have trouble recalling the day of the week, month, year or where they are and why. You can help by keeping this information written close by on a calendar for your loved one to refer to throughout the day.

**Attention** is the ability to focus on and understand activities such as conversations or TV shows. When attention is affected, a stroke survivor may have difficulty concentrating for long or even short periods of time. This can lead to problems with memory, learning new information, and organizing items and thoughts. Decreased attention makes it harder to follow shifting topics of conversation, so sometimes it may seem like the stroke survivor is being rude, when they are just having trouble keeping up. You can help your loved one stay more attentive and focused by eliminating distractions, maintaining eye contact and redirecting them back to the topic at hand when needed.

**Reasoning** is the ability to use information, observations or facts to make sound decisions or judgments. A loss of reasoning skills can lead to decreased self-awareness, poor judgment or failure to think before acting, especially if the poor reasoning prevents one from understanding the consequences of their actions. For example, your loved one may try to get up out of bed and walk to the bathroom, or drive, or even go back to work soon after leaving the hospital.

**Problem solving** is similar to reasoning, and refers to the ability to recognize why there is a problem and to choose steps that will solve the problem. Because someone with a stroke often has to learn new ways to do familiar activities, problem solving skills are important for this new learning to happen. A decrease in attention and memory skills will make it harder to store and process the information needed to choose a solution to a problem.

## Other Problems

**Organizing** thoughts or sequencing steps to complete activities may be difficult for a stroke survivor in addition to issues with attention and memory. . For example, your loved one may have loved cooking or baking before having a stroke, but may now find it hard to determine which step comes first, next and so on.

**Neglect** describes a decrease in awareness of one side of the body and can lead to injury of the neglected side. You can help your loved one improve one-side neglect. Try sitting on the neglected side so they must attend to it or place items on only one side of the nightstand. Use touch and verbal direction to alert your loved one to the neglected side. For example, take your loved one's hand on the neglected side and say, "let's get your drink" then guide that hand to the drink.

## RECOVERY

As part of the stroke recovery process, cognitive rehabilitation improves a stroke survivor's ability to complete daily living activities. The therapeutic process involves re-learning to process, retain and use new information in an effective and appropriate way. Members of your rehabilitation team can help with the relearning process while also helping with the physical stroke recovery in an inpatient, outpatient or home health setting.

- Occupational therapy focuses on relearning daily self-care activities which will involve attention, reasoning, problem solving and organizing skills.
- In addition to helping with communication, a speech therapist will evaluate most areas of cognitive problems, and offer suggestions on what the patient and the family can do to improve memory, attention, orientation and reasoning.
- A neuropsychologist can do testing to identify major cognitive and emotional difficulties caused by a stroke and make recommendations for specific treatments that may help, possibly including medications.

## How can you help?

At home there are many things you and your family can do to help carry over new skills from therapy sessions and increase mental stimulation of the affected areas. For example, computer software programs are available to help stroke survivors regain skills. Computer games, word puzzles, watching Wheel of Fortune, reading the newspaper or a book and playing cards or dominoes, should all be encouraged and can help your loved one achieve personal and therapeutic goals.



It helps to have a strategy when caring for a loved one who suffers from cognitive impairment following stroke. Here are some general tips for successful interactions with one who has cognitive problems:

- Try to keep the atmosphere quiet when speaking. This helps eliminate distractions and helps your loved one attend to conversation.
- Make sure you have your loved one's attention before speaking, and repeat information if needed.
- Give your loved one enough time to comprehend new information and enough time to respond to questions. Avoid speaking for them and keep them involved in the conversation to help maintain self-confidence.
- Keep your instructions brief and simple, breaking directions down into small, simple steps.

## Memory Tips

Every stroke survivor is affected differently by memory loss. Problems can occur with immediate, short-term or long-term memory. Your loved one may have difficulty recalling names, recent events, memory of faces and familiar routes. Many times stroke survivors also have a harder time learning new skills. You can help your loved one by forming a routine, doing things one step at a time and putting things in the same place where they can be easily found the next time.

One way to help a loved one suffering from short-term memory loss involves a technique using the acronym **WARM**. **WARM** stands for Writing, Association, Repetition and Mental Picture.

**W – Write:** Have your loved one write things down to remember them later.

**A – Associate:** Help your loved one group or associate new information with things that are familiar.

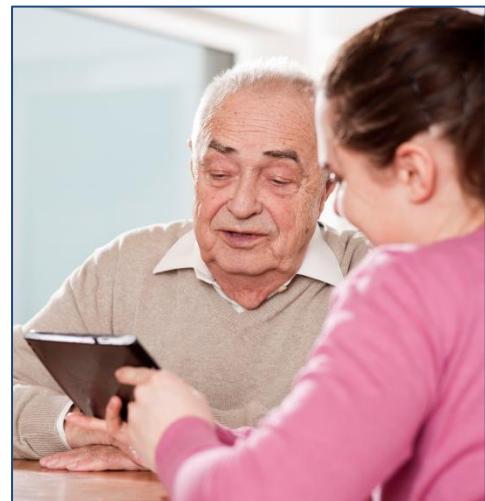
**R – Repeat:** Say information over and over again.

**M – Make a mental picture:** Encourage your loved one to visualize doing a certain activity or going somewhere.

Another helpful memory tool is to use a daily planner. A daily planner helps your loved one to increase independence and to take an active role in daily activities. Items to write in the planner may include:

- medication schedule
- therapy, doctor or other appointments
- holidays and vacations
- birthdays, anniversaries and other special events
- personal information, such as address and phone number
- emergency phone numbers, such as fire, police and doctor
- questions to ask caregivers and
- names of new people

Try to record and review plans about once a week. Suggest that your loved one make a daily list of things they want to accomplish and check off each task as they finish. They may also want to record their daily activities so they can recall them later. For best results, your loved one should review the planner each morning, evening and intermittently throughout the day.



Here are some additional memory tools for stroke survivors:

- Use a written schedule or routine
- Use a calendar
- Write a daily log of activities
- Do new tasks when there is time to write down the steps
- Use repetition for new information
- Ask for reminders from others
- Work on only one thing at a time
- Relate information to personal experiences
- Keep a pen and paper handy at all times
- Make a checklist

## Problem Solving Tips

The combination of physical and cognitive problems that can result from a stroke often makes learning to do familiar tasks in new ways very difficult. Problem solving, organization and memory are important skills needed to figure out possible solutions to daily challenges. If you are helping a loved one overcome some of these problems, here are some suggestions:

- Define the problem and consider why the problem occurred.
- Decide what information is needed to solve the problem.
- Make a list of possible ways to solve the problem.
- Reason through the best possible way to solve the problem.
- Review steps needed to carry out solution and write them down for future reference.

It may be helpful to practice organizing or sequencing with the stroke survivor to increase these skills. Set up a simple game using flash cards, or simply ask, "What would you do first?" You can also assist with a simple but familiar activity such as making a sandwich, so they are required to follow a set number of steps in order to successfully complete the project. The more they practice, the better their skills will grow.



It is important to encourage your loved one come up with answers for himself or herself as much as possible. You can offer hints to lead them in the right direction, but allow them to learn through some amount of trial and error to help them see why some solutions work and others don't. But always be aware of safety, never allowing them to try something unsafe.

It is possible to recover from stroke. Keep in mind that your loved one's recovery will be easier and faster if they participate actively.

For more stroke information visit  
[houstonmethodist.org/stroke](http://houstonmethodist.org/stroke)  
or call 832.667.5867.

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