

Cognitive Changes

Cognition refers to the way we think. Thinking involves our ability to pay attention and process information, remember that information, and then use that information to function in daily life. Following a brain injury, these processes may be interrupted making day-to-day functioning a challenge. Cognitive changes may require adaptation in order to compensate for them. You, your family, and friends can use specific strategies to deal with how cognition is affected by your brain injury.



COMMON COGNITIVE EFFECTS

Attention and Concentration

A brain injury can affect a person's ability to pay attention to things going on around them. The survivor may not be alert enough to communicate and he or she may not be fully aware of the environment. It can also affect the survivor's ability to focus attention for long periods.

The following are examples of attention and concentration problems:

- easily distracted by sights and sounds that would not have pulled attention away before
- trouble concentrating while reading because it requires focus in order to absorb information
- trouble paying attention to more than one thing at a time (multitasking)
- trouble switching from one task to another because it takes so much effort to focus

Tips for minimizing effects of attention and concentration problems:

- Eliminate distractions in the environment.
- Limit attention to one task at a time.
- Avoid interrupting if the survivor is speaking to someone else.
- Avoid changing topics or tasks quickly.
- Take rest periods to avoid overload.

Confusion

After a brain injury, most people experience some confusion. This could last minutes or days or even weeks.

The following are signs of confusion problems:

- disorientation
- staring blankly
- confusing times or tasks in schedule of activities
- confabulation (making up stories to fill memory gaps)

Tips for minimizing effects of confusion:

- Have a calendar, clock, family photos, and location signs nearby as reminders.
- Use notebooks to plan for and log events.
- Have a daily routine and avoid making abrupt changes to it.

Decision-Making and Problem-Solving

Making decisions and solving problems can be hard for someone with a brain injury. The survivor may have trouble analyzing information or making a change in thinking. When problem-solving, there may be difficulty deciding on the best solution or the person may get stuck on one solution and not consider other options.

Signs of difficulties with decision-making and problem-solving:

- extreme frustration when not able to perform a task
- doesn't listen to all information before making a decision and viewed as stubborn at work

Tips for minimizing effects of difficulties with decision-making and problem-solving:

- Avoid making decisions when tired, hungry or under stress.
- Limit the number of choices as too many are often overwhelming and can increase indecisiveness.
- Practice problem-solving by evaluating the options.

Memory Problems

A problem with memory is one of the most prominent features of a brain injury. Long-term memories or past memories are often not affected. Loss of the ability to make new memories or short-term memory can be the most disabling. Memory problems range from mild, such as occasional difficulties with remembering names, to severe post injury amnesia where the survivor cannot remember events that happened just a few seconds ago.

Confabulation is a very common memory problem in which the person produces false memories. When someone confabulates, they either report remembering events that never happened or remember events as having happened at an incorrect time or place. This is a direct result of the injury to the brain, but may go away on its own. It is important to remember that the person is not intentionally doing this.

Slowed Speed of Processing

Brain injury survivors may experience slower information processing speed, which means they require more time to think. This affects decision-making even in emergency situations.

Signs of slowed speed of processing:

- takes longer than usual to coordinate two-handed activities with household objects (e.g., opening cans, making coffee)
- not able to complete tasks at work
- may not be as quick or witty as before injury

Tips for minimizing the effects of slowed speed of processing:

- Slow down and simplify information.
- Allow more time to respond to questions and to understand new information.
- Avoid overstimulating situations (e.g., noise, crowds).
- Encourage family and friends to slow down and repeat information when talking.

Reasoning and Judgment

The ability to solve problems is the height of other cognitive skills. It involves the ability to attend to a situation, understand all components of a problem, recall possible appropriate alternatives, and then make the correct choice among the alternatives. However, reasoning and judgment may be impaired in persons with a brain injury. The survivor may have difficulty determining the action that should logically come next in a sequence. The survivor may also show poor judgment as a result of difficulties predicting and evaluating the possible consequences of actions. The person's thinking style may be inflexible. Because of poor judgment, a frequent outcome of brain injury is that the survivor may not make sound decisions.

COMPENSATION STRATEGIES

The cognitive effects of a brain injury differ for each person. Compensation strategies can help you build on your strengths and improve your cognitive skills.

Cue Strategy

Cueing means someone giving a signal to you to prompt a specific action. A therapist can teach this strategy to enable the person with a brain injury to act and do things independently.

Types of cues:

Direct cue - asking a specific question (e.g., "Did you look in your calendar?")

Indirect cue - a non-verbal signal such as pausing or nodding head

Self-cue - asking yourself the question (e.g., "Where could I find that information?")

5W Strategy

This strategy involves teaching you to focus and then pick out the main points of what you are learning.

Read and Remember:

1. **who**
2. **what**
3. **where**
4. **when**
5. **why**



SOLUTIONS

Problem-Solving Worksheet

Below is a sample problem-solving worksheet that you can use to break a problem down into manageable solutions.

The Problem

I can't remember what my doctor told me to do.

1. _____

2. _____

3. _____

4. _____

Possible Solution

Next time, I will bring a planner and write down instructions.

How it Worked

Now I can look at my notes if I forget something the doctor said.
