



Brain Cell Training Session 101

Presented by Angela Mandas, MA CCC Speech Language Pathologist

Important Terms :

Aphasia – difficulty understanding what is said and thinking of the right word to express themselves

Apraxia – difficulty making the word exit your mouth although you know what you want to say but cannot say it due to motor planning problems

Aspiration - when food or liquid enter your lungs and may result in a pneumonia

Closed Head Injury – also known as a Head Injury or TBI (Traumatic Brain Injury). Can be caused in a variety of ways: car accident, motorcycle accident, skate boarding, skiing, falling off a ladder, to name a few

Concussion – mild head injury with a normal CT scan

Dysarthria – difficulty producing clear speech due to weak breathing muscles

Dysphagia – inability or weakness in swallowing. Serious condition as it leads to aspiration

Open head injury – when a sharp object penetrates the skull and brain such as a bullet

Left hemisphere stroke – when a stroke occurs on the left side of the brain which leaves the person with right sided weakness and speech and language problems

Right hemisphere stroke – when a stroke occurs on the right side of the brain which leaves the person with left sided weakness and cognitive problems along with visual neglect

Cognitive Changes experienced by people with brain injuries

Cognitive changes

Examples of effects of some common cognitive changes are:

1. Information processing

- slowed processing
- poor mental tracking
- fatigue

2. Attention

- short attention span
- poor concentration
- poor attention to detail
- easily distracted

3. Memory

- difficulty learning and remembering new information

4. Problem solving

- difficulty working out how to do things

5. Flexibility

- unable to shift to or think of a new solution/method
- may perseverate (repeatedly refer to the same topic or keep returning to that topic)

6. Planning and organizing

- poor preparation, eg. starting something without considering options
- difficulty understanding or recognizing the steps involved

7. Reasoning

- thinking is often rigid and concrete
- tendency to take things literally

8. Self monitoring

- poor use of feedback and breaking rules
- not picking up on cues

9. Insight

- unaware of own limitations

- unrealistic goals or expectations

The information provided here is a guide and doesn't reflect hard and fast divisions. For example, a person having difficulty learning new information may have a poor memory and/or attention deficits or poor organizational skills.

Each individual is likely to show a different pattern of cognitive changes, often combined with some preserved abilities.

A deficit in one of the cognitive functions listed above due to a TBI can lead to certain problems for the individual in terms of their behavior.

The following is a table of deficits, problems arising and management strategies.

Deficit	Problems arising	Management strategies
	The person may:	You and others can:
Speed of information processing	<ul style="list-style-type: none"> - take longer to complete tasks - take longer to get ideas together and answer someone - be unable to keep track of lengthy conversations and instructions 	<ul style="list-style-type: none"> - make allowances and give the person extra time - speak clearly and evenly - present only one thing at a time - try not to interrupt or answer for the person - check that the person is keeping up with the conversation
Fatigue	<ul style="list-style-type: none"> - tire quickly during mental effort - have reduced tolerance and ability to cope - become irritable easily - have their other problems exacerbated 	<ul style="list-style-type: none"> - encourage the person to take rest breaks - schedule more demanding or essential tasks when the person is at their best (often morning) - arrange activities to be shorter where there is an achievable goal
Mental tracking	<ul style="list-style-type: none"> - have difficulty following instructions - lose track of what they are thinking/doing - get information mixed up or become confused 	<ul style="list-style-type: none"> - keep activities and instructions short and uncomplicated - ask specific or direct questions - provide reminders to the next step in a task
Attention	<ul style="list-style-type: none"> - appear not to listen - miss details 	<ul style="list-style-type: none"> - use short, simple sentences - shorten activities so they can be completed - ensure the person writes down important information

	<ul style="list-style-type: none"> - forget what people have said - have difficulties concentrating - be unable to cope with more than one thing at a time - be easily distracted - change the subject often - not complete what they say - get bored easily 	<ul style="list-style-type: none"> - assist the person to check what they are doing - encourage the person to engage in only one activity at a time - reduce external distractions (noise, other people) - if the person has been distracted, interrupt and bring their focus back to task - alternate activities to maintain interest
Memory	<ul style="list-style-type: none"> - have difficulty learning new things - be forgetful (what people say, names, appointments) - lose things - have difficulty recalling what they have learnt 	<ul style="list-style-type: none"> - repeat information as necessary - encourage rehearsal of new information - encourage use of external memory aids; diaries, calendars, time tables - maintain 'special places' for belongings - give reminders and prompts to assist recall
Problem solving	<ul style="list-style-type: none"> - have difficulty working out solutions to problems - be unable to generate new ideas - have a disordered approach to problem solving 	<ul style="list-style-type: none"> - help identify an achievable outcome for the task, ensure there is a purpose - avoid giving open-ended tasks - help the person to approach tasks in a more systematic manner - assist the person to break a task down into smaller components - reduce the demands made upon the person (one thing at a time, start simple)
Flexibility	<ul style="list-style-type: none"> - be unable to accommodate for, or adapt to change - become 'stuck in a rut' unable to develop new strategies - persist with erroneous methods despite feedback - repeatedly refer to the same topic or return to that topic when doing something else (perseverate) 	<ul style="list-style-type: none"> - assist the person to identify initial signs of frustration and recognize that is a time to stop what they are doing - provide alternative ways of completing a task so a choice is available - direct the person to another activity if they are continually making errors - if they are talking off topic, direct the person back to task by asking specific questions
Planning and organizing	<ul style="list-style-type: none"> - difficulty preparing for a task - be unable to work out the steps or 	<ul style="list-style-type: none"> - encourage the person to consider what they are about to do before commencing an activity

	<p>sequence involved in a task</p> <ul style="list-style-type: none"> - not consider the consequences of their actions - have problems with organizing their own thoughts and explaining things to others 	<ul style="list-style-type: none"> - provide a written structure or guideline outlining the steps in order - give prompts or steps - help develop a timetable (weekly, daily) to establish a routine of activities - keep the environment organized so items are always kept in the same place - encourage the person to take time to think about what they want to say
Reasoning	<ul style="list-style-type: none"> - have a rigid and concrete thinking style - take statements literally - fail to "put themselves in another's shoes" - be resistant to change - have a simplistic understanding of emotions - show poor judgment and poor decision making skills 	<ul style="list-style-type: none"> - use simple and direct language and avoid talking in abstract terms - explain changes in routine in advance, giving reasons - try not to get into arguments with the person - avoid using emotional undertones - provide real life examples (preferably the person's) when offering explanations
Self-monitoring	<ul style="list-style-type: none"> - show poor adherence to rules - not realize they have made errors because they have not checked their work - 'hog' conversations - be verbose and keep talking when others are no longer interested 	<ul style="list-style-type: none"> - reinforce specific requirements of an activity - encourage the person to check over their work - immediately indicate, or provide feedback, when errors occur or when the person talks too much - use signals, which have been agreed to in advance, to let them know they are talking too much - encourage turn taking in conversations
Insight	<ul style="list-style-type: none"> - be unaware of cognitive and physical limitations - set unrealistic goals, plans and expectations - be resistant to the effort of caregivers/staff 	<ul style="list-style-type: none"> - provide explanation why proposed action (not the person's own plan) is useful, and reason through the steps (small steps, start gradually etc) - help to identify realistic goals - these may be smaller components of a larger plan, but more achievable

