

TREATING ACQUIRED BRAIN INJURY

Areas of Focus in 3 Stages of Rehabilitation:

Stage 1: UNDERSTANDING – identifying and understanding deficits

Areas of Focus:

- Assessment/ history
- Educate and support loved ones
- Help the survivor focus on rest
- Be savvy about survivor insight issues

Stage 2: COMPENSATION – developing strategies to compensate

Areas of Focus:

- Be an advocate
- Facilitate good communication between professionals
- Treatment should focus on functional skill building, and implementing compensatory strategies
- Measure functional progress periodically
- Watch for emotional needs of survivor, including grief as insight is regained

Stage 3: ACCEPTANCE – building survivor acceptance that some things may never be restored

Areas of Focus:

- Focus on building independence
- Focus on grief, identity development and self acceptance
- Seek to balance a sense of control and autonomy and an expectation for unexpected setbacks

Please note: *This may be used as a rough outline for guiding neurorehabilitation. The length of time spent by brain injured patients in each stage and some of the specific needs of each client will vary depending on the type and severity of their injury and a variety of other factors, many of which we still don't fully understand.*

Facts about Traumatic Brain Injury:

Traumatic brain injury is chronically misdiagnosed and undiagnosed.

Stats:

- 5.3 million Americans are currently disabled by traumatic brain injury
- 1.5 million Americans suffer a traumatic brain injury each year
- 80,000 Americans sustain long-term disability from TBI each year
- Every 21 seconds, someone in the U.S. suffers a traumatic brain injury

Number of people diagnosed annually:

TBI	1,500,000
Heart Attack	1,200,000
Stroke	700,000
Alzheimer's	377,000
Breast cancer	176,000
Parkinson's disease	60,000
AIDS	43,000
Spinal cord injuries	11,000
Multiple sclerosis	10,000

Source: Neurology Now, Sept/Oct 2006

Types of TBI:

- Mild, moderate, or severe
- Blunt/ closed head or open head injury

Assessing Severity of Injury:

- Loss of consciousness
- Degree of memory loss
- Glasgow Coma Scale
- Previous brain injuries
- etc.

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LOCAL RESOURCES

1. Utah Valley Regional Medical Center
Physical Medicine & Rehabilitation Center
“Concussion Clinic”
1034 North 500 West
Provo, UT 84605
Office: 801.357.7540 Fax: 801.357.7725

Description: UVRMC offers services in the areas of Audiology (Vestibular eval., etc.), Occupational Therapy (driver’s assessment, vision therapy program, community/ work reintegration, etc.), Physical Therapy (Balance assessment/ treatment, etc.), Rehabilitation Psychology Services & Neuropsychology (neuropsych. evaluation, IMPACT/ concussion program, counseling and treatment compliance, pain management, etc.), Social Work (consult for Parkinson’s and other diagnoses), Speech Therapy (Cognitive therapy, language restoration therapy, etc.).

2. BYU Comprehensive Clinic
1190 North 900 East
Provo, UT 84602
(801) 422-7759

Description: The Comprehensive Clinic offers services to BYU students and the community in areas including Clinical Psychology (neuropsychological assessment, psychological assessment, psychotherapy and cognitive rehabilitation, etc.) and Communication Disorders (cognitive rehabilitation, speech therapy, etc.). These services are offered at a sliding scale fee rate.

3. Intermountain Outpatient Neuro Rehabilitation
“LDS Hospital Outpatient Neuro-Rehab”
230 South 500 East
Salt Lake City, UT 84102-2015
801.408.5489
4. Intermountain Outpatient Neuro Rehabilitation
“Cottonwood Neuro Rehab”
5801 South 300 East, Ste. 190
Murray, UT 84107
801-314-4732 801-314-5011 fax

Description: Intermountain Outpatient Neurological Rehabilitation Services include specialized treatment for stroke, brain injury, spinal cord injury, MS, Alzheimer’s, etc. These services include Physical Therapy, Occupational Therapy, Speech Language Pathology, Neuropsychology, and Vocational Case Coordination.

5. Division of Rehabilitation Services
“Vocational Rehabilitation Services”
150 East center St. #3300
Provo, UT 84601-3157
Ph: 801.374.7724 Fax: 801.377.1241

Description: Voc Rehab offers services including orientation, intake, assessment, restoration/ training services, and work placement services for individuals with disabilities.

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REFERENCES

Survivor Memoirs:

1. Smile On My Forehead: Memoir of my Life with a Brain Injury, by Jennifer Mosher

Description: A traumatic brain injury survivor's story.

Other info: She also has a blog: <http://thesmileonmyforehead.blogspot.com/>; it includes a link for ordering her book there.

2. Stroke of Insight, by Jill Bolte Taylor, Ph.D. (2009)

Description: A Neuroscientist describes her experience of having a stroke and recovering

Other info: She also did a moving TED presentation you can find at <http://www.youtube.com/watch?v=UyyjU8fzEYU>.

3. Over My Head, by Claudia Osborn, M.D. (1998)

Description: A medical doctor describes her experience and recovery from a moderate level traumatic brain injury, including social adjustments, her experience going through a rehabilitation program, and subsequent vocational adjustments.

4. Injured Brains of Medical Minds, compiled and edited by Narinda Kapur (1997)

Description: A neuropsychologist compiled memoirs and articles written by brain injury survivors (from stroke, TBI, epilepsy, etc.) who are also medical workers, psychologists, and so forth. He adds commentary at the end of each section, including links between reported difficulties and neuropsychological functions and localizations of injuries.

5. Brain Injury Dialogues, DVD.

Description: A brain injury survivor along with a veteran filmmaker team up to create this documentary which chronicles the varied experiences of several different brain injury survivors and explores general issues related to brain injury rights and treatment needs.

Other info: For info about the video, including how to order it, go to <http://www.braininjurydialogues.org/>

5. "You Look Great!": Inside a TBI

Description: A traumatic brain injury survivor recounts the story; includes information about his injury and recovery and other general TBI facts.

Other info: This 6 part video can be found at youtube.com.

Other resources:

www.brainline.org – general info about TBI for survivors, families, and professionals.

www.neuroskills.com – TBI research and resource guide

No More Sleepless Nights, by Hauri and Linde (1990) – this is a useful guide in dealing with sleep difficulties

TREATMENT TIPS FROM SURVIVORS

(Adapted from Osborn, 1998; Taylor, 2009; Kapur, 1997)

- I am not stupid, I am wounded. Please respect me.
- Repeat yourself – assume I know nothing and start from the beginning, over and over.
- I may want you to think I understand more than I really do.
- Honor the healing power of sleep.
- Be as patient with me the twentieth time you teach me something as you were the first.
- Protect my energy. No talk radio, TV, or nervous visitors! Keep visitations brief (five minutes).
- Do not assess my cognitive ability by how fast I can think.
- Love me for who I am today. Don't hold me to being the person I was before. I have a different brain now.
- Be protective of me, but do not stand in the way of my progress.
- Please don't tell me you know what it's like. Don't minimize or deny my difficulty (e.g., "Oh, I have a poor memory, too.").
- Believe in the plasticity of the brain and its ability to grow, learn and recover.
- Keep down the noise. My brain needs to be protected, and isolated from too much sensory stimulation.
- Remember that amnesia is both a gift to celebrate and a loss to grieve. Let me decide what it means to me.
- Trying to tell me how much and when I will recover is not useful for me. Let me set the pace.
- Remember my loved ones have different needs than I do. Treat them as if their injuries are as big as mine. Support them.
- Help me try things even though I might not be able to do them. Help me try again and again.
- Point out when I am able to do things I couldn't before.
- Encourage me to keep notes of my progress.
- Talk slowly and try to avoid complicated sentences.
- Encourage me to be open about my difficulties. If I try to conceal them, I will be even more anxious, and I may do something ridiculous in trying to cover them up.
- Don't make excuses for me. Don't tell me my errors "aren't that bad". It compounds my distress and discounts what I once was without even allowing me the opportunity to express my grief.
- Encourage me to take chances with my memory. If I say the first thing that pops into my mind, it might be right.
- Help me define my priorities about what I want to get back the most, and not waste energy on other things.
- Focus on my ability, not my disability.
- Come close, speak slowly, and enunciate clearly.

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- Stimulate my brain when I have any energy to learn something new, but know that a small amount may wear me out quickly.
- Trust that I am trying – just not with your skill level or on your schedule.
- Understand that negativistic and hostile behavior might be my attempt to show you that I'm a competent person who can accomplish and control some things. Please don't take it personally.
- Speak to me directly, not about me to others.
- Treat me like you think I will recovery completely.
- Break all actions down into smaller steps of action.
- Look for what obstacles prevent me from succeeding on a task.
- Clarify for me what the next level or step is so I know what I am working toward.
- Celebrate all of my little successes.
- Please don't finish my sentences for me or fill words I can't find. I need to work my brain.
- Think about and address my practical limitations first, but don't forget about my emotional needs.
- Help me expect the ups and downs and cope with them when they come.
- Remember medications may make me tired and mask my ability to know what it feels like to be me.
- I am the only one who really knows me. Help me learn to represent my own needs.
- Help me accept my limitations, but maintain optimism for my continued growth.
- Help me take one day at a time. Just because I can't today, doesn't mean I won't be able to tomorrow.
- Encourage me to read success stories of others who have gone through what I have.
- Help me be patient with myself.
- Remember I will have to mourn the loss of the old me. Be there for me when I do.
- Remember that in the absence of some functions, I have gained other abilities.

GLASGOW COMA SCALE

The Glasgow Coma Scale provides a score in the range 3-15; patients with scores of 3-8 are usually said to be in a coma. The total score is the sum of the scores in three categories. For adults the scores are as follows:

Eye Opening Response	Spontaneous--open with blinking at baseline	4 points
	Opens to verbal command, speech, or shout	3 points
	Opens to pain, not applied to face	2 points
	None	1 point
Verbal Response	Oriented	5 points
	Confused conversation, but able to answer questions	4 points
	Inappropriate responses, words discernible	3 points
	Incomprehensible speech	2 points
	None	1 point
Motor Response	Obeys commands for movement	6 points
	Purposeful movement to painful stimulus	5 points
	Withdraws from pain	4 points
	Abnormal (spastic) flexion, decorticate posture	3 points
	Extensor (rigid) response, decerebrate posture	2 points
	None	1 point

Post-Concussion Symptom Scale

Name: _____

Date: _____

Instructions: For each item indicate how much the symptom has bothered you over the *past 2 days*

		Symptoms	none	mild			moderate		severe
Physical	Headache	0	1	2	3	4	5	6	
	Nausea	0	1	2	3	4	5	6	
	Vomiting	0	1	2	3	4	5	6	
	Balance Problems	0	1	2	3	4	5	6	
	Dizziness	0	1	2	3	4	5	6	
	Visual Problems	0	1	2	3	4	5	6	
	Fatigue	0	1	2	3	4	5	6	
	Sensitivity to Light	0	1	2	3	4	5	6	
	Sensitivity to Noise	0	1	2	3	4	5	6	
	Numbness/Tingling	0	1	2	3	4	5	6	
Thinking	Feeling Mentally Foggy	0	1	2	3	4	5	6	
	Feeling Slowed Down	0	1	2	3	4	5	6	
	Difficulty Concentrating	0	1	2	3	4	5	6	
	Difficulty Remembering	0	1	2	3	4	5	6	
Sleep	Drowsiness	0	1	2	3	4	5	6	
	Sleeping Less than Usual	0	1	2	3	4	5	6	
	Sleeping More than Usual	0	1	2	3	4	5	6	
	Trouble Falling Asleep	0	1	2	3	4	5	6	
Emotional	Irritability	0	1	2	3	4	5	6	
	Sadness	0	1	2	3	4	5	6	
	Nervousness	0	1	2	3	4	5	6	
	Feeling more Emotional	0	1	2	3	4	5	6	
Pain other than Headache		0	1	2	3	4	5	6	

Exertion: Do these symptoms worsen with:

Physical Activity Yes No not applicable

Thinking/Cognitive Activity Yes No not applicable

Overall Rating: How different is the person acting compared to his/her usual self? (circle)

Same as Usual 0 1 2 3 4 5 6 Very Different

Activity Level: Over the past two days, compared to what I would typically do, my **level of activity** has been ____ % of what it would be normally.

COGNITIVE THERAPY/ COGNITIVE REHABILITATION:

Manuals/ Treatment Protocols:

1. **Brain Stars program** - 1-800-624-6554 ext 6642
2. **Brain Boosters** - <http://www.docstoc.com/docs/20290795/Cognitive-and-Work-Rehabilitation>
3. **Brainwave-R** - focuses on cognitive strategies for TBI rehabilitation, including information processing, visual processing, attention, memory, and executive function.
4. **Katherine Mateer's Attention Process Training (APT)** series - addresses the different levels of attention (focused, sustained, selective, alternating, and divided).

Online Activities for Daily Practice: lumosity.com; websudoku; jigzone.com; etc.

Areas of Cognitive Difficulty and Treatment Tips:

(Adapted from Cognitive Rehabilitation Treatment Manual, Brain Tree Group, England)

Attention

What is it?

Attention skills underlie all other cognitive activities and are very common on brain injury (even mTBI). Be careful not to misunderstand attention difficulties as motivation issues. Attention consists of several different components:

Focused attention – the ability to perceive individual pieces of information. After brain injury, attention may become rigid or inflexible, especially if the individual is unable to remove his or her attention from the task deemed necessary.

Sustained attention – commonly called concentration, which predominantly involves vigilance.

Selective attention – the ability to avoid distractions, from both external (e.g., noise) and internal (e.g., worries) stimuli.

Alternating attention – the ability to shift the focus on attention and to alter it between tasks.

Divided attention – the ability to respond to or to give two or more responses simultaneously.

Some Symptoms:

Being easily distracted

Concentrating on one thing for long periods of time

Confusion when there is a lot going on

Difficulty dealing with more than one thing at a time

Finding one's attention wanders easily

Getting mentally tired more easily

Slowness in responding

Needing prompting to get on with things

Spending time daydreaming

Missing important details in tasks

Feeling restless

Difficulty sticking to a task; jumping from one task to another without completing any

Feeling "spaced out" or blank

Losing track in the middle of a conversation

Treatment Tips:

Compensatory strategies -

- Minimize distractions (e.g., read in a quiet place as opposed to in front of the TV)
- Self-questioning: "What should I be doing now?"
- Time management: planning a program of activities ahead of time.
- Break complicated tasks into smaller, carefully arranged steps. (see project planning template)
- Try to establish and maintain a weekly or daily routine.

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- Use an audio recorder: for example, when trying to read and absorb info from a text, after reading each paragraph, summarize in your own words into the audio recorder (We speak 11x faster than we write).
- Pacing: Distribute the activity over a period of time, including frequent breaks.
- Forced rehearsal: during conversations force yourself to repeat what someone has said to you in your own words (i.e., “let me repeat this to you to see if I have it”).
- Create incentives for improved attention. This may involve discussing reward ideas with clinician or family member and making plans to give one’s self “treats” to celebrate after doing these tasks.
- Gain control: Request slower and/or more simple delivery and repetition of messages.
- Repeat. Listen to a message and then immediately repeat it back (this is a rehearsal technique).
- If distracted when reading a text, block off parts of the text using paper, or use finger as a marker.
- Read out loud as often as you can. You will then be learning through your eyes and ears.
- Rehearse what you read or heard in your mind before moving onto something else.
- Set yourself deadlines. “I’ll do task at 6:00 pm,” instead of “I’ll do work later on.”
- Learn a routine to increase the likelihood of paying attention:
 - o Sit up straight, arms down, feet on the floor.
 - o Look at the person who is talking
 - o Picture what is being said.
 - o Work in a quiet room away from games, magazines, TV.
 - o When you catch yourself not attending, tell yourself to get back on track.
 - o Sit close to the source of information.

Skill building activities –

- Look through the local paper at the personal ads section. Find specific kinds of people.
- Look at movie theatre schedule, to locate certain movies.
- Watch a sporting event on TV and then take notes during the game. Check the notes with a newspaper report of the same game the following day.
- Watch a TV program with the intention of retelling the story to someone else at a later point.
- Walk rally. Provide a rally sheet with questions/ directions to follow, e.g.,
 - o Start walking along S Street toward the traffic light
 - o When you come to a building with green glass, turn and head toward the shopping center. What is the name of the building?
 - o Cross over the street and face the shopping center. What restaurant did you pass on your right?
 - o When you face the shopping center what building is on the left that is known for its car services?
 - o Continue into the shopping center. What is the name of this center?
 - o Go to the supermarket.
 - o Walk to the deli section. Does the supermarket have any of their own brand of meats?

Visual Processing

What is it?

Visual processing is the means by which individuals make sense of their visual world. Disorders of visual processing can result from damage to the eye itself, the optic nerve and chiasm, the cranial nerves, or the midbrain and cortical structures.

Visual Attention – inability to attend to critical factors, difficulty sustaining gaze on specific objects, staring behavior.

Scanning – difficulty reading lines of print but not involved with single words presented centrally. Non-brain injured individuals tend to use a circular scanning pattern, usually beginning in the left upper quadrant. Following brain injury individuals tend to scan more slowly, fixate longer and use irregular search patterns.

Visual Organization – Putting meaningless parts into a coherent whole (e.g., puzzle).

Visual Figure/Ground – Seeing objects as distinct from their background (e.g., Where’s Wally).

Visual Closure – Recognizing incomplete objects or words (e.g., Pictionary, Crossword Puzzles).

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Visual Sequencing – Detecting or constructing a meaningful pattern or order (e.g., rearranging comic strips in correct order, scrabble).

Visual Memory – Recalling information that has been seen (e.g., Simon).

Processing Speed – Rate of acquiring, manipulating/ acting upon visual info (e.g., Bingo).

Visual Problem Solving – ID-ing problem, survey of conditions, selection of a plan of action, application of that plan, evaluation of results (e.g., Connect Four).

Visual Matching/ Discrimination – Detection of similarities/ differences between forms.

Some Symptoms:

Blurred vision

Double vision

Difficulty reading text

Headaches

Losing things

Difficulty locating items unless helped to do so

Difficulty following information in books

Difficulty understanding written information

Banging into things in the house

Knocking things over

Treatment Tips:

Skill Building activities -

- **Visual organization** –
 - o Jigsaw puzzles
 - o Models
 - o Legos
 - o Other construction toys
- **Visual figure-ground** –
 - o Where's Wally books
 - o I Spy books
 - o Word searches
 - o I Spy with my Little Eye
- **Visual closure** –
 - o Hangman
 - o Connect the Dots puzzles
 - o Crossword Puzzles
 - o Pictionary
- **Visual sequencing** –
 - o Boggle
 - o Scrabble
 - o Unscrambling letters into words or words into sentences
 - o Cutting up and rearranging comic strips in the correct order
- **Visual memory** –
 - o Simon
 - o Pelmanism
 - o Kim's game
- **Processing speed** –
 - o Bingo
 - o Various video or computer games
 - o Snap

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Memory

What is it?

Memory is the ability to keep things in mind and recall them at some point in the future. The process of creating and maintaining memories is sometimes understood in terms of the information processing model:

Attention → Encoding → Storage → Consolidation → Retrieval

Attention – attending to sensory information

Encoding – the registration of information at the time of learning. Encoding is dependent on the amount of time, attention and meaning associated with the information.

Storage – Once the info is encoded it is stored in long term memory.

Consolidation – If the information is not rehearsed and practiced then it will probably be lost. This process of rehearsing and practicing is called consolidation (e.g., if someone tells you a phone number, you need to use it several times before you begin to remember it easily).

Some Symptoms:

Constantly repeating information
Trouble remembering people's names
Remembering where you have put things in the house
Remembering where things are usually kept
Remembering what you've just said when talking to someone
Remembering when it was that something happened
Remembering to do things that you said you would do
When reading a book, remembering what you have just read
Remembering familiar directions, routes
Remembering that you have already done something
Difficulty learning a new skill

Treatment Tips:

External strategies –

- Diary
- Wall Calendar or Planner
- Lists
- Notes/ Memos
- Placing of Objects
- Purchase a “pill organizer”
- Alarms/ watches
- Electronic aids
- Notepads
- Highlighting
- Files
- Forward Planning

Internal strategies –

- Rehearsal
- Visual Image
- Association
- First Letter Cues
- Mental Retracing
- Stories/Rhymes
- Categorizing Information
- Methods of Study

Functional activities training -

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- Watch the 9 o'clock news and at the end list the news items that were discussed (just down key words during the program)
- Go shopping with a friend. Select relevant groceries for the week (make and use a comprehensive shopping list).

Information Processing

What is it?

Information processing is the ability to make sense of the world by dealing effectively and efficiently with sensory and other information that constantly enters the system. It includes speed of thinking (the amount of information a person can attend to within a given time), capacity of thinking (the amount of information a person can attend to at any given time), and control of thinking (a person's ability to guide the selective process by directing and organizing whatever processing capacity he or she has). Difficulties with information processing may be due to breakdowns in memory and organizational abilities.

Some Symptoms:

Having the do things slowly in order to understand them
Being able to "think on your feet"
Getting tired easily
Difficulty dealing with young children
Trouble understanding written instructions
Understanding new information
Following fast moving conversations
Understanding what other people say, particularly when in a group
Following a lot of verbal information
Dealing with more than one thing at a time
Confusion when there is a lot going on
Difficulty completing tasks quickly
Greater difficulty doing things when there is a lot going on
Going off on tangents in conversations
Answering questions quickly
Being quick-witted
Adding up lists of numbers quickly in head

Treatment Tips:

Compensatory strategies –

- Learn to ask people to repeat things or to slow down when they are giving you instructions, or during conversations.
- Develop awareness of the best times for you to complete more complex activities. Be aware of becoming overloaded or "flooded".
- Develop and use organizational strategies such as writing notes, and lists.
- Minimize distractions in the environment, by letting people around you know not to interrupt you when involved in a task.
- Don't assume that you will be able to complete activities in the same way you use to be able; gain awareness that now you have to focus more closely on tasks.
- Check and double check all work.
- Ensure a quiet distraction free environment is available when trying to learn new information.
- Use a piece of paper to break up information on a page to avoid overloading.
- Keep track of things you have to do in a daily log/ planner.
- Plan ahead. Take a few minutes before you begin a task to plan out how you will do it.
- Work in periods of 30-60 minutes with short breaks in between.
- Alternate tasks that are boring with those of greater interest.
- Use highlighter pens to draw attention to specific dates or important bits of informations.
- Before you begin your day, think about it. Do you have everything you need? Have you completed all the tasks you were supposed to? Review the day when you come home, the same way.

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- Designate a spot for everything: e.g., pens and pencils in the same desk drawer, keys and phone in the same container, etc.
- Mark where you left off reading a book or magazine with paperclips, sticky notes or a bookmark.
- Clip together all related work into a folder.
- Set yourself a time and place for completing specific tasks. Be consistent and specific.
- Anticipate and eliminate all possible distractions when you want to concentrate.
- Use a wall calendar to plan dates and to keep them at the forefront of your mind.
- Write what is in each folder on the cover, and when you put it in. This will make it easier to find things.
- Use index cards to summarize information.
- Make and display cleaning charts, house rules and other routines for you to follow.

Skill building –

- Use various simple, functional activities (e.g., multistep or problem solving tasks). For each iteration, may increase time pressure, and complexity of activity to increase skills.
- Use holiday brochures to locate specific holiday information.
- Summarize a newspaper article in your own words.
- Watch a TV show and then summarize the plot and describe the characters. (Take notes as needed during the program)
- Cook while following a recipe.
- Look up specific information in the Yellow Pages.
- Write a list of complicated words and have the brain injured client look them up in the dictionary.
- Practice following written instructions to build a piece of equipment.

Executive Functioning

What is it?

Executive functions in the brain manage and direct all other cognitive functions. The centers for these functions are located in the frontal lobes of the brain, which are frequently damaged when the brain scrapes against the ridges on the inside of the skull during trauma. These impairments affect a client's ability to function independently and effectively in work, home and social setting. The following is a list of several areas of executive functioning:

- **Self-awareness** – this is also called insight. It means having an accurate idea of personal strengths and weaknesses.
- **Goal-setting** - the ability to set realistic, achievable goals based on limits and capabilities.
- **Self-initiation** – the ability to start and carry through the steps in a plan without prompting. This includes the ability to function in unstructured settings by identifying what action is required.
- **Self-inhibition** – the ability to inhibit or stop behavior or thoughts that are inappropriate.
- **Planning/ organization** – to be able to establish the steps involved in carrying out a task, including prioritizing and sequencing what needs to be done, then carry it out in a practical way.
- **Self-monitoring/ self-evaluation** – the ability to assess the appropriateness and effectiveness of what is done.
- **Flexible problem solving** – the ability to recognize a problem and anticipate problems that may occur. The ability to work out alternative solutions to a problem and conceptualize the activity as a whole.

Some Symptoms:

- Inability to identify personal strengths and weaknesses
- Difficulty seeing things from another person's point of view
- Difficulty understanding subtle and abstract information.
- Difficulty with time management.
- Difficulty with exercising good judgment.
- Emotional lability.
- Difficulty switching gears, coping with routine changes.
- Difficulty learning from mistakes.

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- Lack of foresight and anticipation.
- Difficulty planning and executing a sequence of behaviors.
- Confusion when confronted by choice.
- Inability to generate ideas
- Initiating appropriate behavior and inhibiting inappropriate behavior
- Preoccupation with irrelevant and trivial matters (perseveration)
- Difficulty with prioritizing.
- Failure to experience the significance of effects in the environment.
- Inability to provide continuity and coherence of behaviors across time.
- Limited transfer of information to novel situations
- Difficulty modulating affective and interpersonal behavior
- Inability to use language flexibly and abstractly
- Unable to benefit from experience.

Treatment Tips:

Note: The guiding principle when treating executive functioning deficits is STRUCTURE. Write things out, make tasks simple and concrete, and never assume your client will independently be able to carry out abstract ideas and tasks.

Compensatory strategies -

- Practice setting goals and breaking them down into small, specific tasks.
- Use checklists when carrying out tasks – take time to write out the order of the task and check off each step as it is achieved.
- Structure the day by writing a plan of tasks that need to be varied out and in what time frame. Include all activities, even those that are routine personal or domestic tasks. This will help with difficulties with self-initiation and generating one's own ideas.
- Use self-questioning to check your work, such as:
 - o What is it that I want to achieve?
 - o What do I need to do to move toward that goal?
 - o What are the steps I need to take and in what order?
 - o Are there any other alternatives to this plan – if so, what are they?
 - o How will I know if I have achieved the goal?
 - o How will I know if I am successful?
 - o After completing a task, ask:
 - Was this a successful outcome?
 - Did I achieve what I set out to achieve?
 - If I was to carry out the task again, what improvements could I make?
- Use a structure like the following when solving problems:
 - o The exact problem is . . .
 - o Possible solutions to the problem (number them)
 - o Pros and cons of each solution
 - o The best solution is . . .
 - o Action plan (list out the steps and put them in order)
- Use a structure like the following when planning and carrying out tasks:
 - o The activity is . . .
 - o Location of the activity . . .
 - o Time frame for the activity . . .
 - o Equipment/ material/ people required . . .
 - o Action plan . . . (list out the steps and put them in order)
 - o Other considerations/ unanswered questions . . .
 - o Evaluation

Skills training -

- In order to increase insight:
 - o Give direct feedback about behaviors (Be kind and clear, but do not hint or mince words as the brain injured client may not be able to understand such subtle language).

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- Have the client practice predicting their abilities and stuck points before completing a task and evaluating themselves upon task completion. Supplement this activity with your feedback as needed.
- Have the client find trusted friends, supervisors, or professionals to check in with about specific behaviors they are working on.
- Have the client watch video or audio recording of their performance on tasks and assess themselves. (Remember to break these tasks down and keep them small and doable. Be aware that insight building tasks can increase confusion, a sense of loss, depression, and trust. Emotional support, including psychotherapy, may be a useful supplement when working on these tasks).