

Understanding Changes After Brain Injury

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Quick Introductions

Brain Injury Defined

Damage to the brain, which occurs after birth and is not related to a birth disorder or a progressive disease.

Traumatic Brain Injury (TBI)

may be caused by a violent movement of the head or penetrating injury, for example a car accident, fall, or shrapnel.

Acquired Brain Injury (ABI)

caused by other sources such as an aneurism, brain tumour, or lack of oxygen.

Sometimes the term “ABI” is used to refer to both ABI and TBI.

Frontal lobe

Executive functions, thinking, planning, organising and problem solving, emotions and behavioural control, personality

Motor cortex

Movement

Sensory cortex

Sensations

Parietal lobe

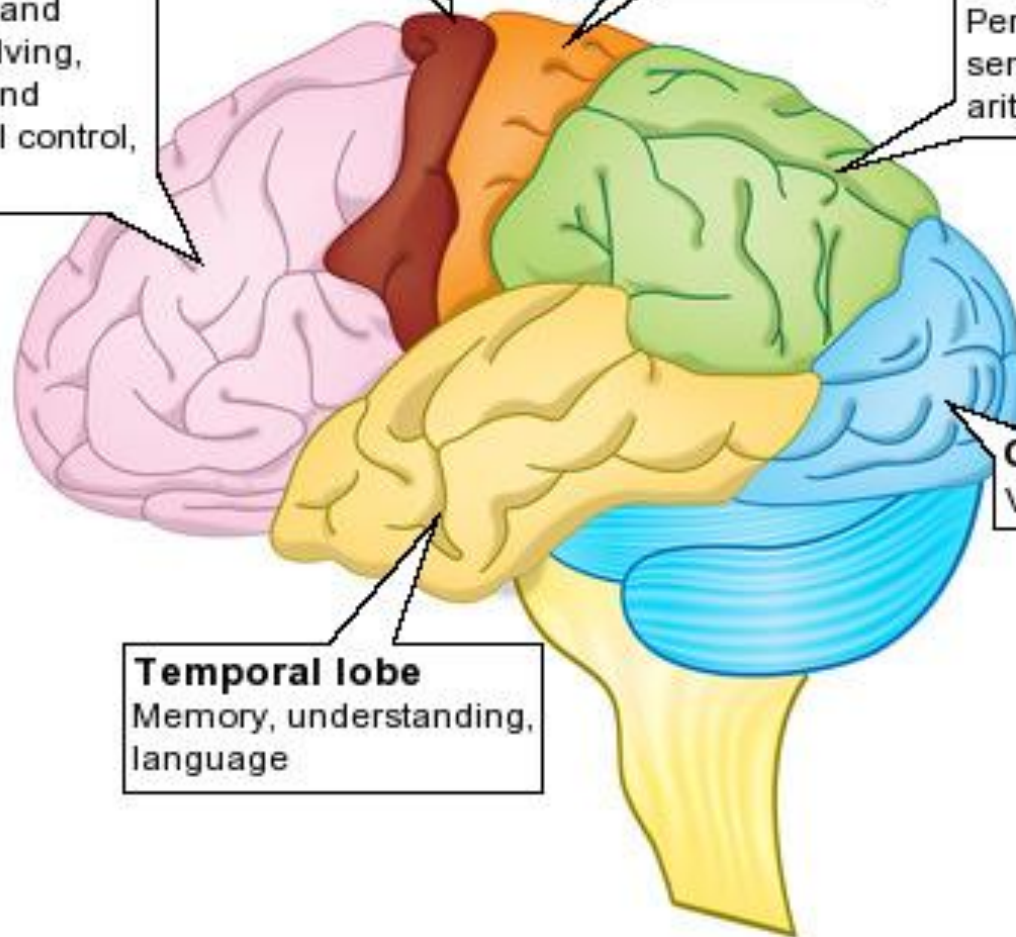
Perception, making sense of the world, arithmetic, spelling

Temporal lobe

Memory, understanding, language

Occipital lobe

Vision



..An Invisible Injury

- Cognitive challenges may not be apparent at first- or may come and go
- Avoid make assumptions about what someone is able to do/not do- it's easy to forget an injury you can't see...
- With practice, some survivors can learn to tell others how to help. Eg. "My memory is terrible. Can you write that down?"



Behavioural Concerns: Cognitive Changes

- Lability or lack of emotion
- Depression and anxiety
- Isolation from others
- Low frustration threshold
- Forced dependency and loss of control
- The brain's ability to make sense of pain or stress
- Low self-esteem

Behavioural Concerns: Cognitive Changes

- Difficulty problem solving
- Poor impulse control: unable to stop thoughts or behaviour
 - > Rigid thinking; inability to accept alternative ideas
 - > Perseveration (Stuck on one idea)
 - > Poor memory, may not recall important information or confabulate details unintentionally
 - > Difficulty with initiation and motivation
 - > Unrealistic expectations of self or others
 - > Slower processing speed

Behavioural Concerns: Cognitive Changes

Perception

- > Unable to see things from other's perspective, self-centred
- > Attention and concentration difficulties
- > Easily overstimulated, brain unable to filter excess stimuli
- > Misunderstanding or faulty memories possible
- > Lack of awareness regarding disabilities

Changes After Brain Injury

- Cognitive
- Emotional
- Physical

Cognitive Changes

○ Memory

- > Short or long term may be affected
- > Information transfer may be impaired
- > May become disoriented easily

○ How you can help...

- > Whiteboards, reminders, calendar
- > Repetition and consistency
- > Allow the person time to process surroundings...slow down
- > Provide immediate feedback, in the moment

Cognitive Changes

- Attention

- > Reduced ability to filter out distraction
- > Unable to focus enough to finish a task
- > May become very fatigued in busy environments

- How you can help...

- > Checklists (involve the resident)
- > The 45 minute hour rule
- > Attempt to remove distractions if possible

Cognitive Changes

- Executive Function (Thinking, Planning)
 - > Impulsivity and poor self-monitoring
 - > Difficulty with motor planning
 - > Difficulty predicting consequences of actions
- How you can help...
 - > Agree to check-in, “stop and think”
 - > Break down tasks step by step
 - > Support the person to work through a problem and try to agree on a solution together

Communication

- > Difficulty with expressing and/or understanding language
 - > Trouble organizing and expressing thoughts
 - > Loss of muscle and breath control makes speech harder to understand
 - > May fall back on key words or gestures to communicate
 - > Increase in frustration and stress and in turn make communication even more difficult
- ⦿ How can you help?
 - > Meet people where they are at
 - > “I know that you know what you want to say”
 - > Don’t make awkward silence awkward

Facilitating Communication

- Be patient, reduce background noise, explain
- Offer choices between two things
- Front-load your sentences
- Speak quietly and calmly and maintain a neutral physical stance.
- Cue and model desired behaviour
- Reinforce successes “I’m glad you kept trying to explain that to me, I’m really glad I finally understand!”

Emotional Changes-

Behaviours are not always as they seem...

- ◉ Emotional lability or lack of emotion
- ◉ Reduced self-awareness**
 - > Looks like....self-centeredness, mean spirited, inconsiderate
- ◉ Depression and anxiety
 - > Looks like... isolation, withdrawal from others, activities
 - > Sleep Tip from the Ontario Neurotrauma Foundation
- ◉ Difficulty with Initiation
 - > Looks like... laziness, lack of motivation

Physical Changes

- ◉ Heightened sense of touch/hearing/smell
- ◉ Hemiparesis, loss of function
- ◉ Impaired balance
- ◉ Vertigo/Dizziness
- ◉ Visual field loss ie) homonymous hemianopsia

Visual Inattention





View of Paris for someone
with Homonymous
Hemianopsia

(Google Image)



View of Paris for someone
with normal vision.

(Google Image)

Long-Term Care Challenges

- Younger residents are isolated from peers
- May have different interests and abilities than elderly residents
- Sense of grief and loss for change in life
- Energy levels and physical abilities may be greater than elderly residents
- Commonalities with staff – same life stage, interests, may have held similar positions prior to injury
- Behavioural support options limited by staffing ratios, LTC Act, physical layout of building, vulnerability of other residents
- GPA Works with ABI too

Strategies for Behavioural and Emotional Problems

Two Options:

- 1) Change the person (with brain injury this can be hard sometimes...)
- 2) Change the situation (usually easier to do)



Personal Changes

- Relaxation exercises (deep breathing)
- Repetition and Consistency– procedural memory often still works, even if episodic memory doesn't
- Involve the person in plans, activities, etc. to maximize sense of self worth and independence
- Teach coping strategies that the individual can use on their own – eg. Checking a calendar, white board, etc.
- Provide immediate clear and concise feedback to the person. Eg. “Instead of swearing, how about you say “Help me” if you're getting frustrated.” The message needs to be consistent across staff for success.

Early Warning Signals

Observable Signs

Physical Symptoms

- Heart racing
- Clenching muscles
- Racing thoughts
- Butterflies / feeling in pit of stomach
- Pain, Headaches
- Digestive issues
- Holding breath
- Restlessness
- Lump in throat
- Feeling overwhelmed, difficulty focusing

- Sighing
- Breathing heavily
- Tense body posture
- Repeatedly talking about the same topic
- Complaints of stomach ache, headache, pain, dizziness
- Fidgeting
- Pacing
- Clearing throat
- Tearfulness
- Less coherent or focused; unable to answer questions clearly, follow directions
- Zoning out



How We May Think of the
“Environment”



The Actual “Environment”

Change the Environment

- ◉ Consider the impact of the environment on the individual (overstimulation, hearing, interpersonal challenges)
- ◉ Find activities that engage the individual and allow them to feel positive about themselves (Eg: Montessori Methods for Dementia)
- ◉ Provide safe, inviting quiet spaces to unwind
- ◉ Use music if tolerated
- ◉ Write things down to reinforce understanding

We are part of the environment

- What are some techniques you use to help patients experiencing potential behavioural concerns?
- What successes have you had in managing a challenging behaviour?



Staff as Part of the Environment

- Be understanding. Provide respect and empathy. Front-load sentences in the positive.
- Provide gentle guidance and support when required, such as to communicate effectively, calm down, or identify alternative activities
- Don't punish behaviour, often it is a symptom of the brain injury, not a deliberate act to harm others.
- Have clear, consistent routines, approaches, and expectations- recovery from brain injury continues many years after the injury

More Strategies

- Focus on prevention!
- Avoid triggers when possible or give warning if not avoidable
- Provide adequate transition/processing time
- Give warning before a change in routine
- Watch for early warning signals of fatigue and agitation
- Take a break before emotions escalate
- Direct the resident to a quiet space where they can calm down naturally
- Back off and try again at a different time. Consider the resident's "best" time of day.

Triggers!

We all have them:



Internal

Fatigue

Hunger

Grief & Sadness

Medication

Illness & Pain

Hormones

Blood Sugar

External

Lack of Control

Particular Individuals

Changes in routine

Noise

Holidays

Weather

Other's expectations

Analyzing Problem Behaviour

- **When** does it occur?
- **Where** does it occur?
- **Who** does the behaviour occur **with**?
- Does it start **suddenly** or build up **gradually**?
- **How long** does it last?
- What is the **history** of the problem?
- What **solutions** have been tried in the past?
- How are **people reacting**?

Other Factors to Consider

- **Physical factors**, ie: excess noise, overcrowding, appropriateness of house or room.
- Are they treated with **respect**?
- Are they part of the decision making process/do they have **choices**?
- Are they **able to communicate** effectively?
- Will they **benefit** from being **taught** coping skills, ie. relaxation etc?

In Closing...

Final discussion:

- ◉ Are there challenges you have difficulty addressing? Why? What is needed?
- ◉ Problem solving together!

Sources:

Evidence Based Review of Moderate to Severe Acquired Brain Injury www.abiebr.com/set/8-mental-health-issues-post-abi/challenging-behaviours

Managing Problem Behaviours; www.brainstreams.ca

Traumatic Brain Injury Training Kit: Module 5: Understanding and managing behaviour changes following a TBI;
<http://www.tbistafftraining.info/Presenters/Module5/5Intro.htm>