

# It's Personal: Principles of Neuroplasticity & the Role of Compensatory Strategies in Cognitive Rehabilitation

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## Disclosures

- Financial disclosure:
  - Receiving compensation for presenting at MSHA
- Non-financial:
  - Website: [www.soundmindinsights.com](http://www.soundmindinsights.com)
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## Agenda

- Background
- Survivor story
- Some Principles of Neuroplasticity & Classifications of Brain Injuries
- Practical Applications



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## Photos taken just months before injury



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**Neurologic:**  
Glasgow Coma Scale Total: 2  
CPP: 56 (56-69)  
ICP: 11 (9-14)  
Pupils: 4mm on right 3mm on L  
Neuro Exam: no response to pain; occasional movements that mimic posturing  
Pain Management/Sedation: fentanyl, versed, paralytics PRN

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Acquired Brain Injury (ABI)


TRAUMATIC  
BRAIN INJURY

An injury to the brain caused by an external source

NON-TRAUMATIC  
BRAIN INJURY

An internal injury to the brain

Brain Trust Canada Association




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Brain Injury Classification

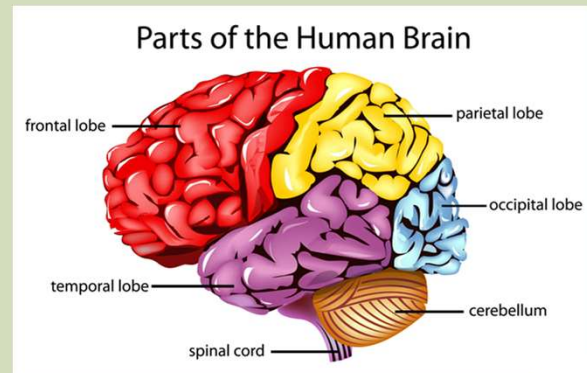
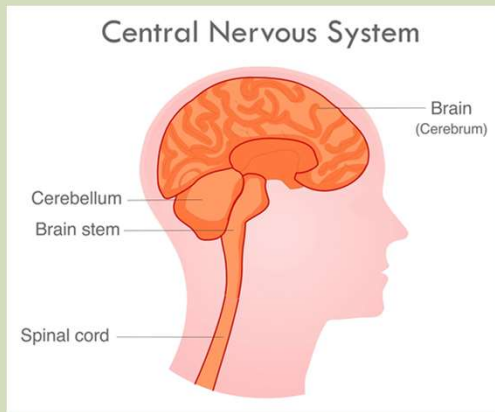
Criteria	Mild	Moderate	Severe
Structural Imaging			
Loss of Consciousness			
Alteration of Consciousness/Mental State			
Post-traumatic Amnesia			
Glasgow Coma Scale (best available score in 24 hours)			

Brasure M, et al.



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# Neuroanatomy



Guy-Evans, O.



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**Video of  
first steps**

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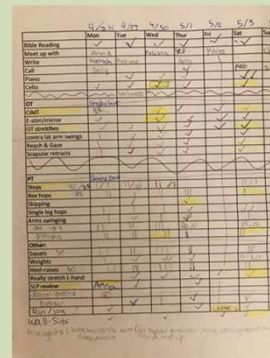
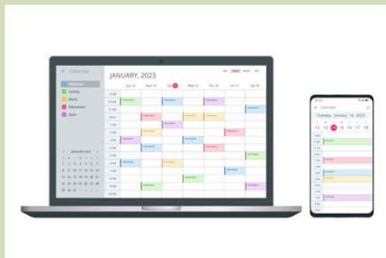
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## Cognitive & Emotional Deficits after Brain Injury

- Schedule management



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## Emotional Impact of Brain Injury

*“One of the things I look at is how the attributes that a patient brings to the table—resiliency, spirituality, hope—facilitate recovery. What we’ve found is that maintaining a positive attitude really does help with outcomes and life satisfaction.”*

Dr. Kathleen Bechtold



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## Road to Recovery and Common Consequences of Brain Injury

### Physical

Paresis

Ataxia

Visual difficulties

### Cognitive

Planning

Organizing

Attention

Problem solving

Memory

### Emotional/Behavioral

Emotional lability

Apathy

Anxiety

Depression

Powell, T. (2013). The Brain Injury Workbook: Exercises for Cognitive Rehabilitation (2nd ed.), Information Sheet 4. Routledge. <https://doi.org/10.4324/9781315172897>



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## Neuroplasticity & Compensatory Strategies

**Neuroplasticity** is “the fancy medical term used to describe your brain’s ability to learn and adapt. Think of it as an internal rewiring process that allows your mind to grow and meet new and increased demands.”

Cleveland Clinic

**Compensatory Strategies** are the creative tricks used to accomplish tasks using alternative methods despite challenges



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## My Experience on the *other side of the table*

- Reasonable Grief



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## My Experience on the ***other side of the table***

- Reasonable Grief
- Determination and responsiveness



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## My Experience on the ***other side of the table***

- Reasonable Grief
- Determination and responsiveness
- Loss of Coping Mechanisms



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## My Experience on the *other side of the table*

- Assessment Process



<https://www.pearsonassessments.com>



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## The Recovery Journey Continues



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## Being a Speech Therapist *in* Speech Therapy

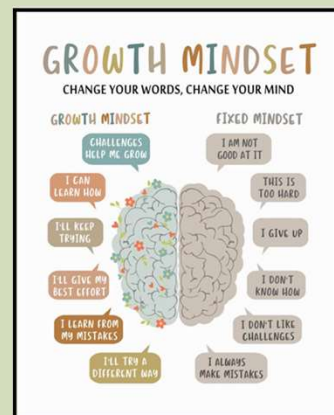
- Frustrations!
- “The double-edged sword of cognitive progress”



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## Things that Helped

- Cultivate a Growth Mindset
- Practice transparency



ZEARPT, Amazon

<https://a.co/d/aEHogBO>



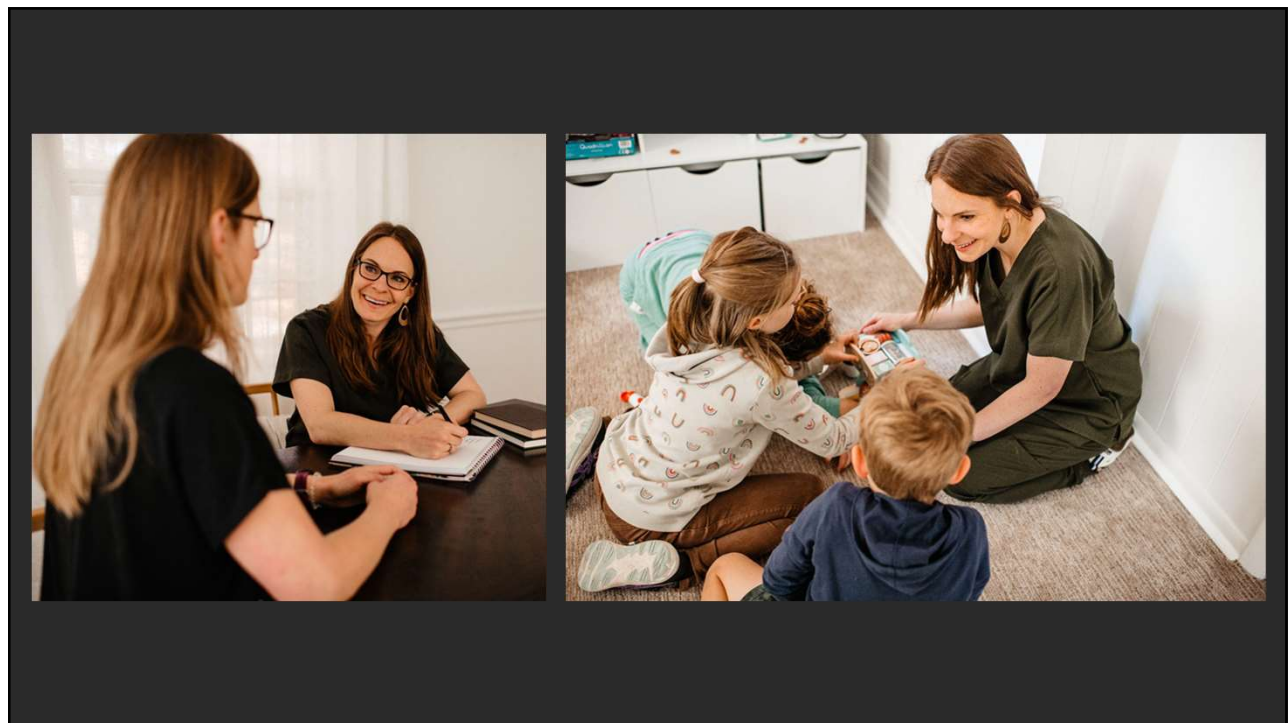
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## General Principles for Using Strategies

- Use them consistently
- Incorporate errorless learning
- Add multimodal input



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Growth Mindset Wall Decor, ZEARPT store, Amazon

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