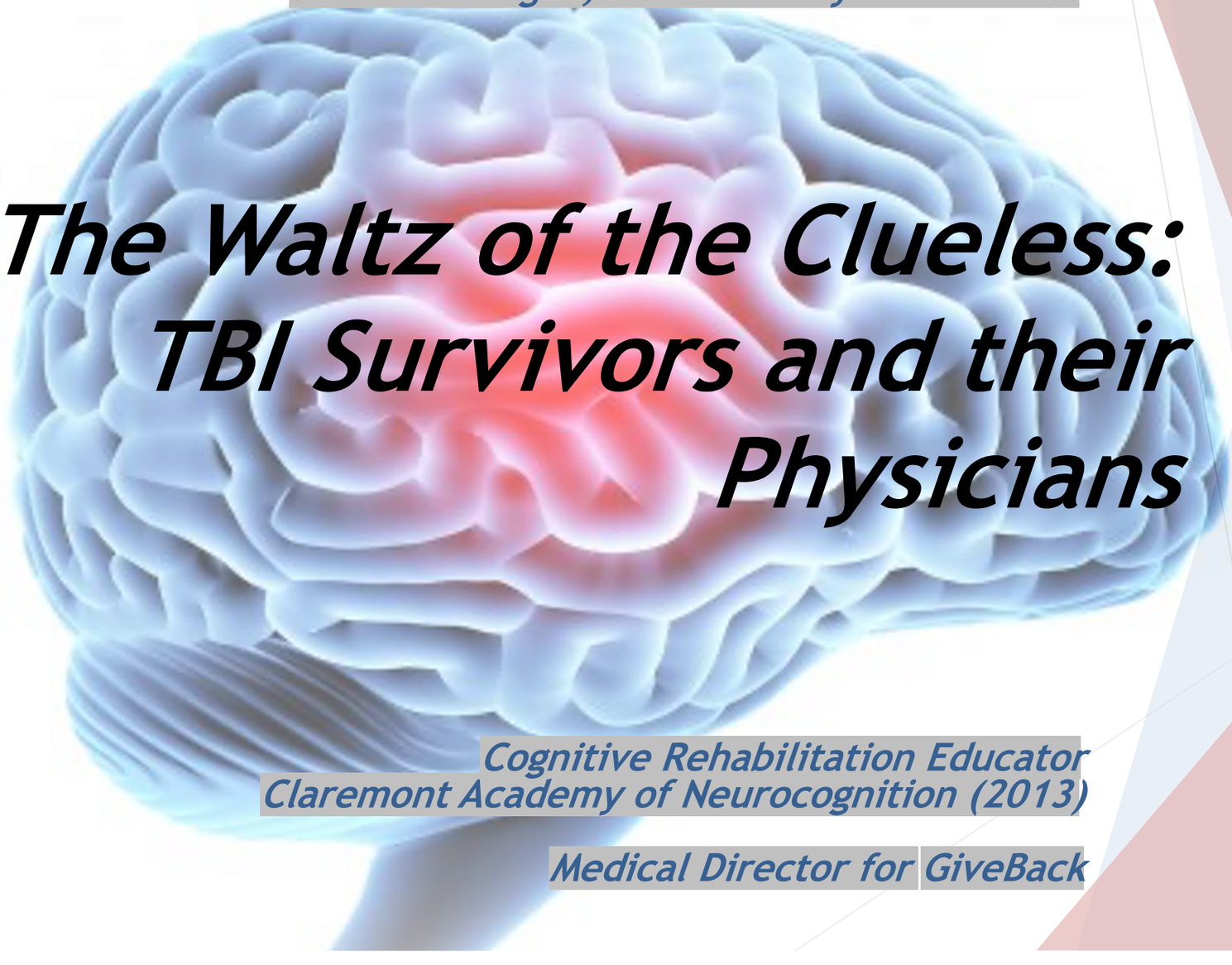
Maria Romanas, MD, PhD
Staff Pathologist, KCVA and Bay Pines VAHCS



The Waltz of the Clueless: TBI Survivors and their Physicians

Cognitive Rehabilitation Educator
Claremont Academy of Neurocognition (2013)

Medical Director for GiveBack

Disclaimer and Acknowledgement

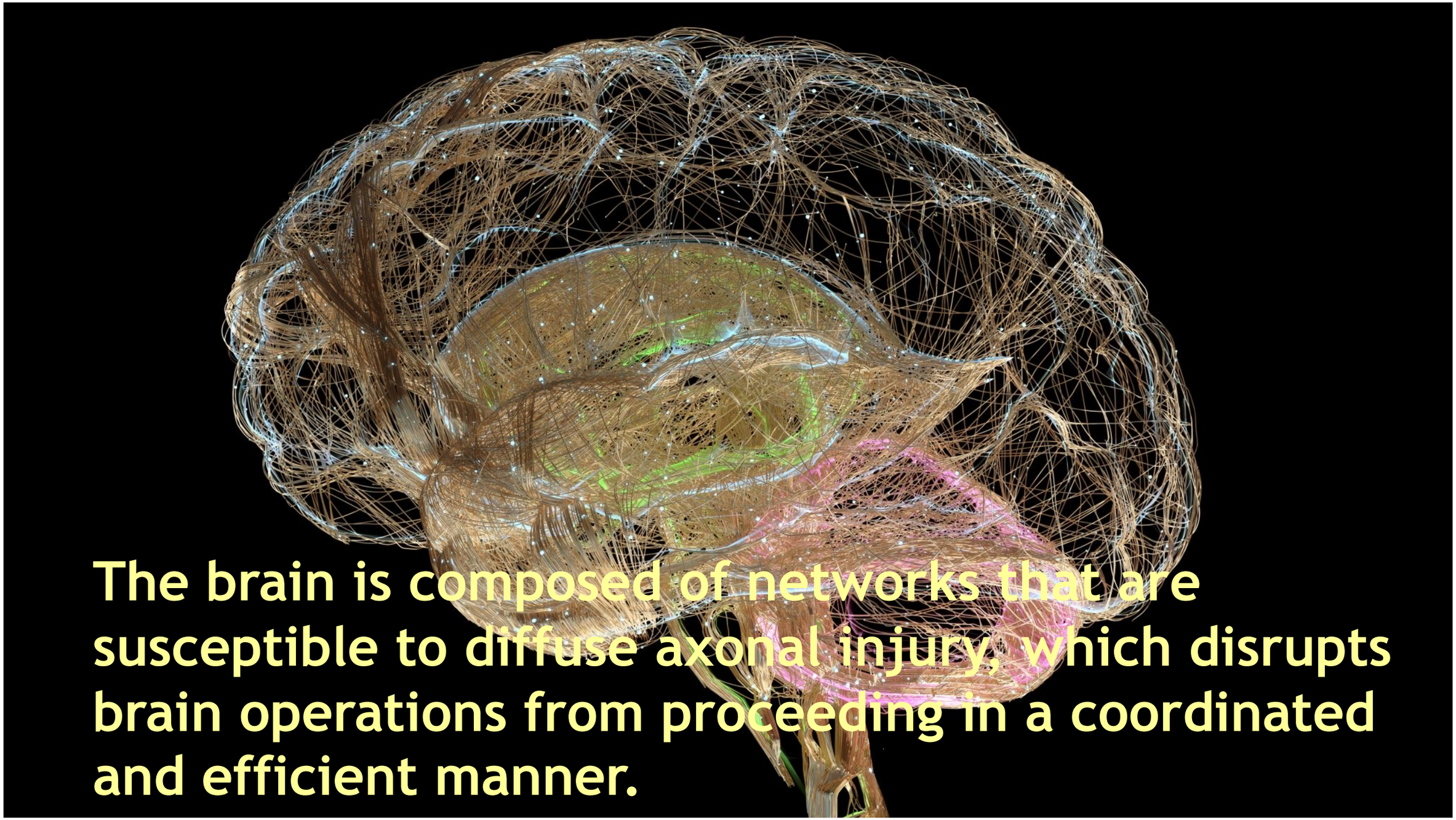
The views expressed in this presentation are those of the presenter and do not necessarily reflect the official policies of the Department of Veterans Affairs, the United States government, or the university with which the presenter is affiliated.

I have no relevant financial relationships to disclose.

Objectives

- At the end of this presentation, you will to be able to:
- Define anosognosia and recognize the role it plays addressing the true plight of the “walking wounded.”
- Identify the lynchpin that is not currently being addressed by the medical model of care.
- Recognize how subtle but permanent cognitive impairments impact the real-world functioning and clinical presentations of TBI survivors.

TBI-BH ECHO


The brain is composed of networks that are susceptible to diffuse axonal injury, which disrupts brain operations from proceeding in a coordinated and efficient manner.

The disconnection syndromes cause the adult brain to at least partially revert to an earlier development stage (Piaget model).

Stage	Age	Goal
Sensorimotor	Birth to 18-24 months	Object permanence
Preoperational	2 to 7 years old	Symbolic thought
Concrete operational	Ages 7 to 11 years	Logical thought
Formal operational	Adolescence to adulthood	Scientific reasoning

- The executive system is no longer watching to determine when it needs to "activate."
- An adult with a TBI can achieve formal operational thinking but will need to train his/her conscious mind to take control of the wheel when needed, depending on task difficulty.
- If a child has a TBI before achieving the highest level, it will be extremely difficult to ever get there.

ADAPTATION IS NECESSARY

Before TBI

OLD BRAIN

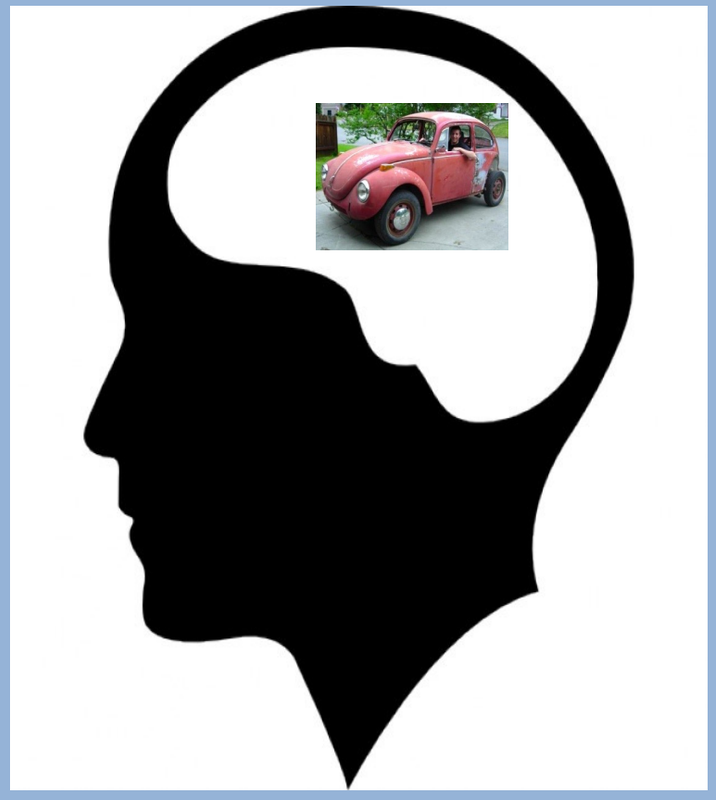
After TBI

"NEW" BRAIN

Both vehicles can make it to the destination, but ADAPTATION IS NECESSARY.

The new brain can no longer be operated effectively in the same carefree manner as the old brain. The survivor needs to carefully observe how his new brain operates in order to customize his adaptation to the idiosyncrasies of his new brain.

Brain-Injured Moments (BIM's)



BIM's result from a survivor trying to use their impaired brain in the normal way to navigate a hard task or situation.

Problem of task difficulty

- Survivors are unable to recognize hard tasks as fundamentally different.
- They do not realize that the brain's executive system processes hard tasks, so they continue doing them under the guidance of their unsophisticated autopilot.
- They often don't recognize their mistakes because the autopilot does not perform quality control. Only the executive system performs quality control, and it is now effectively off-line.

After TBI

BIM's → Partial Disability

Brain-Injured Moments (BIM's)

- Most BIM's look like ordinary mistakes/errors.
- Most individual BIM's sound innocent, like they could happen to anyone.
- For survivors with brain injury, BIM's occur with such high frequency that they cause at least intermittent functional disability.
- BIM's also occur at moments where an intact executive system would never have permitted them prior to injury (ex. forgetting your own child's birthday).

Partial Disability Syndrome

- Discontinuity within a day and over time
- Inconsistent performance
- Inconsistently Inconsistent
- Unreliable
- “Bad” brain days
- Giving up/avoiding

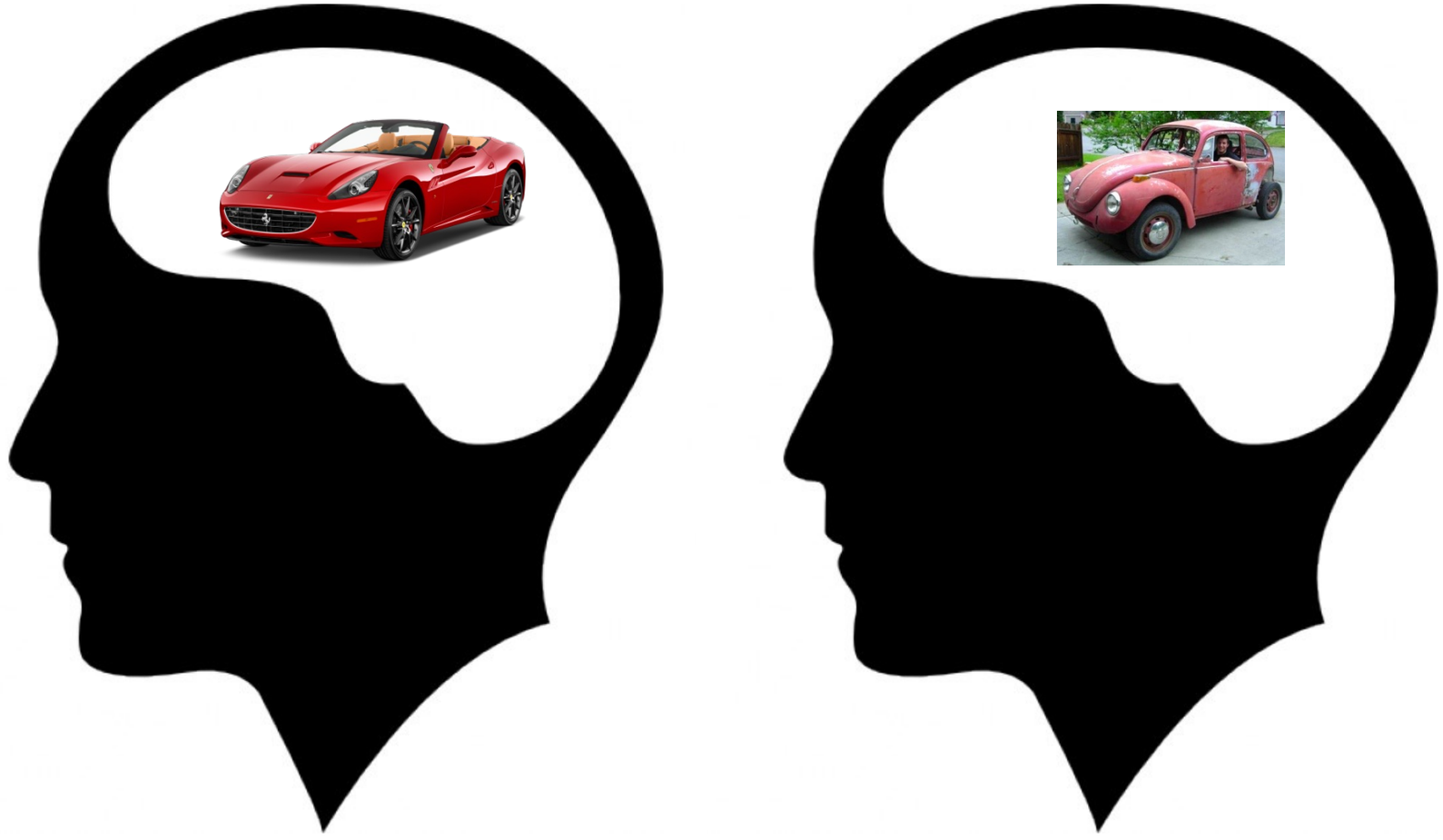
The Crux of the Matter

- **Adaptation is necessary** for brain injury recovery.
- Adaptation is **blocked** because of the disconnection syndromes caused by diffuse axonal injury.
- The adaptation process that automatically occurs in the normal brain becomes **systematically ineffective**.
- Brain-injury survivors **do not learn from their mistakes.**

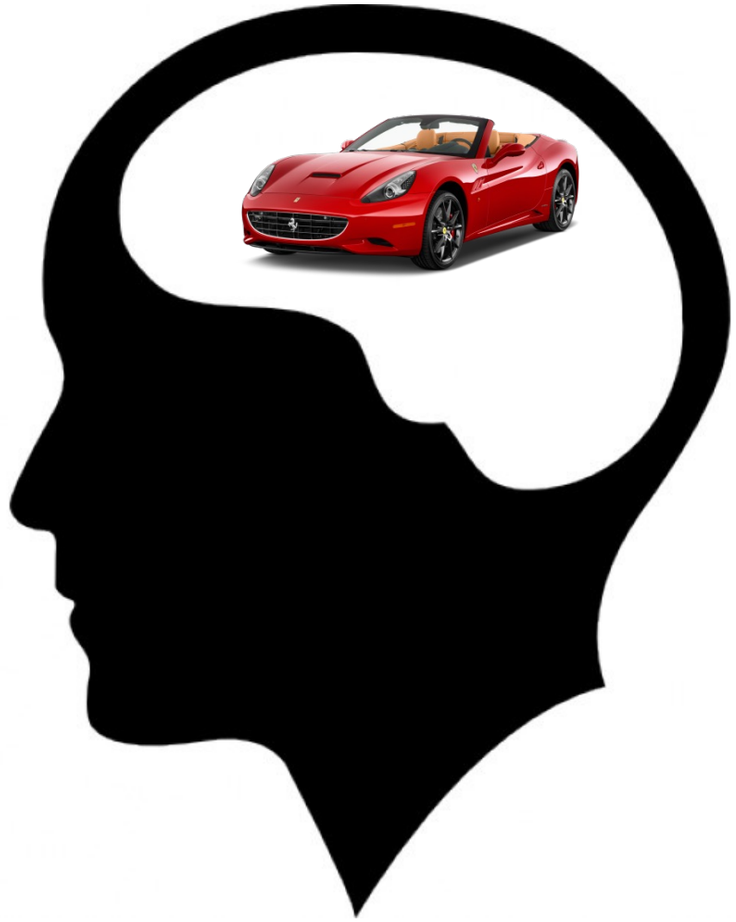
Adaptation must be Restored

- All adaptation to disability comes from the executive system, so if it is shut down there is no adaptation to disability.
- Everything continues to be done in the old familiar way.
- The brain has permanently changed, and so the methods for using it must permanently change as well.

TBI ➔ Persistent partial disability



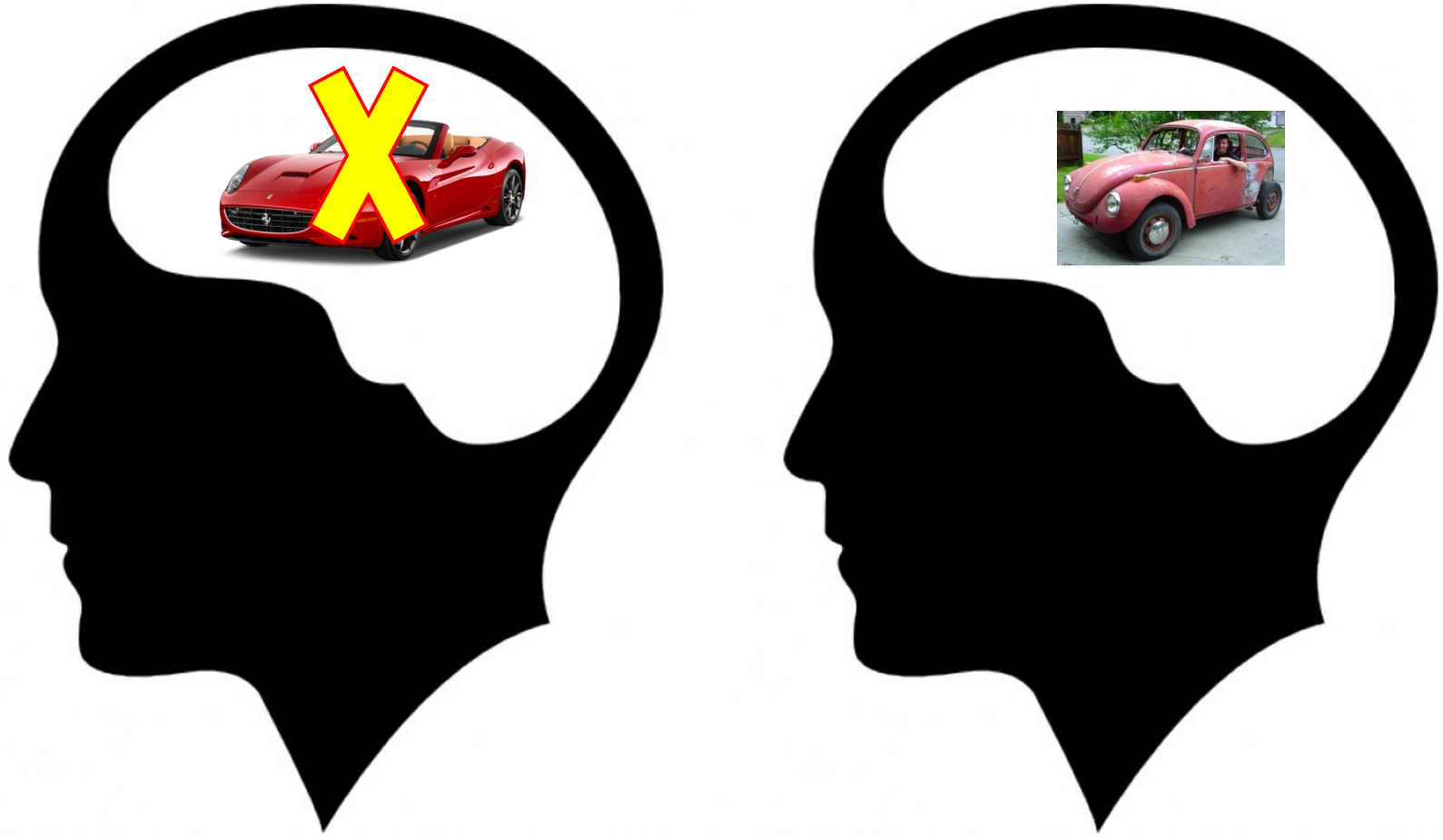
TBI ➔ Persistent partial disability



PROBLEM:

- The survivor is unaware.
- Even if they recognize that they have a brain injury,
- They still act as if they still have their old brains.
- BIM's persist.

TBI ➔ Persistent partial disability



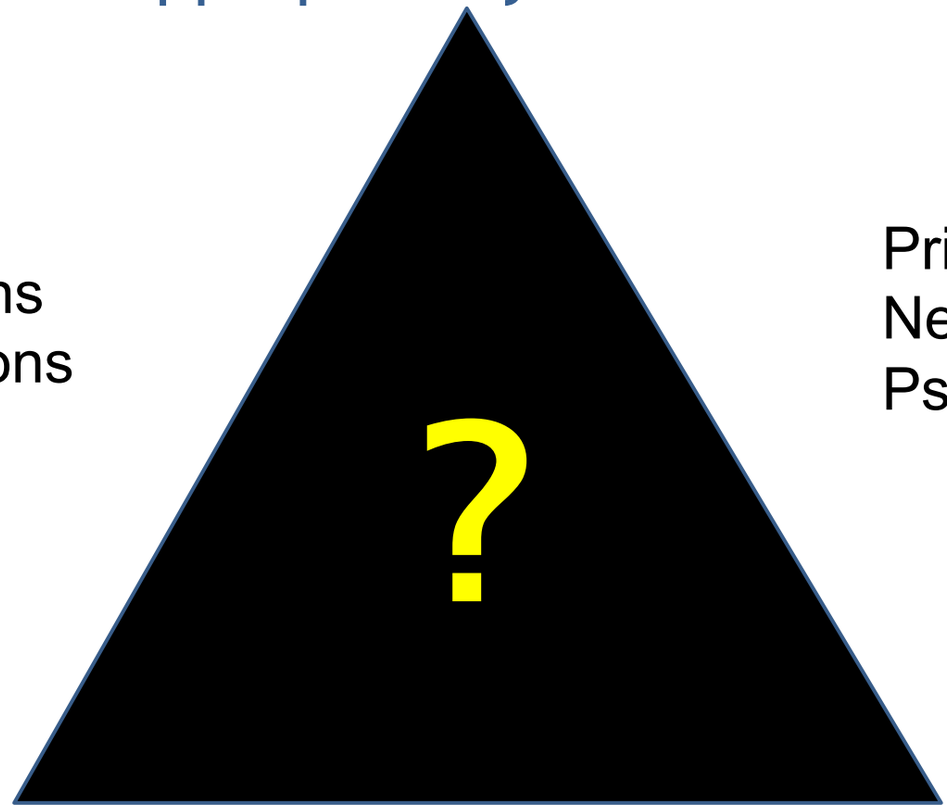
PROBLEM: Physicians are also unaware.

ADAPTATION IS NECESSARY

BUT DOES NOT OCCUR NATURALLY

Case studies: Anosognosia on part of patients and the frequent failure of their physicians to recognize, manage, or refer them appropriately

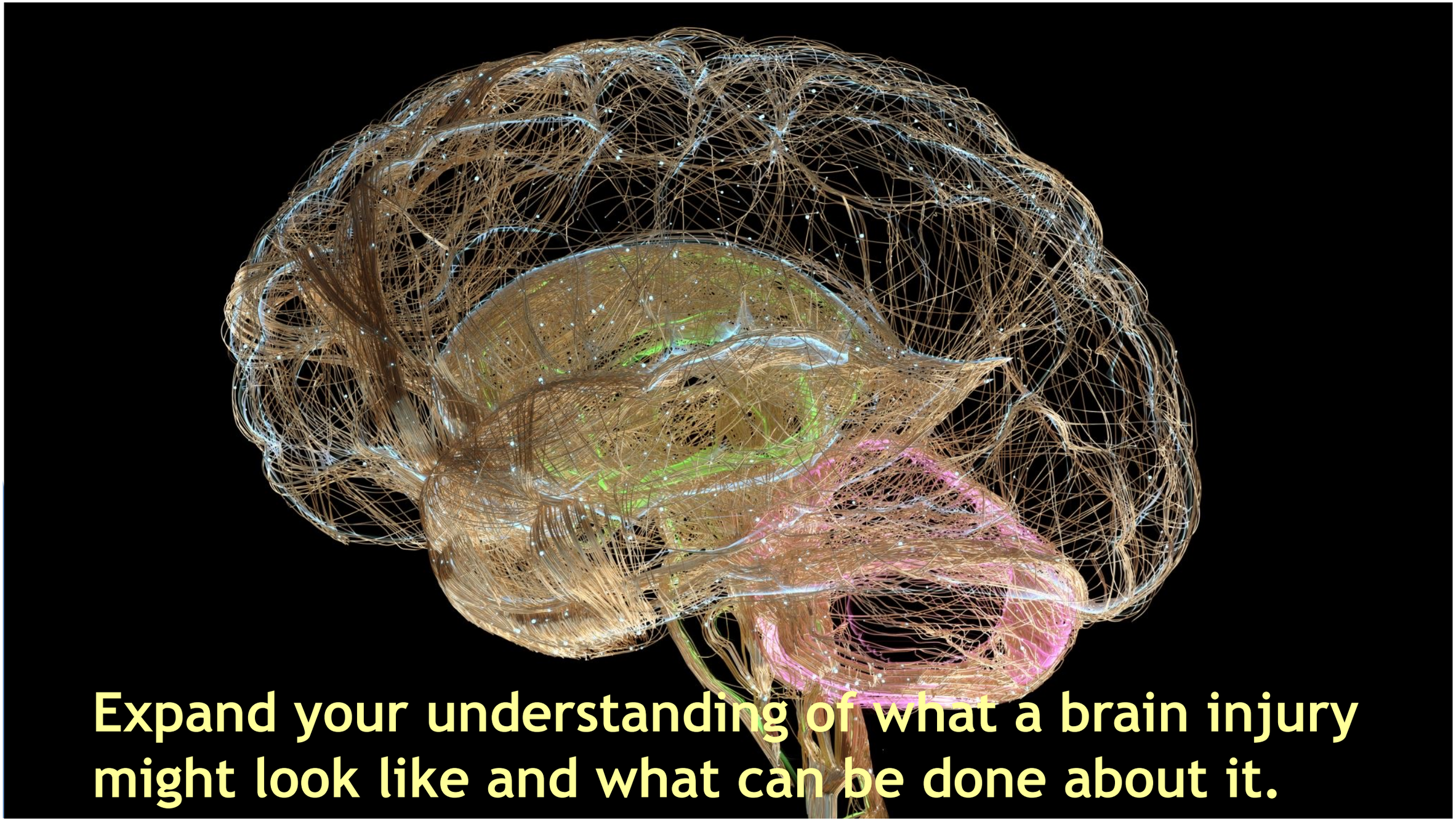
ER physicians
Neurosurgeons



Primary care
Neurology
Psychiatry

Physical Medicine and Rehab

TBI-BH ECHO


Expand your understanding of what a brain injury
might look like and what can be done about it.

A "Mild" TBI Transforms a Doctor into an Impatient Patient

The Neurorehabilitation Summit
The Mayo Clinic Rochester, MN
October 25, 2012
Thomas W. Tatlock, MD

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TBI-BH ECHO

Tom Tatlock, MD – psychiatrist (mild TBI)

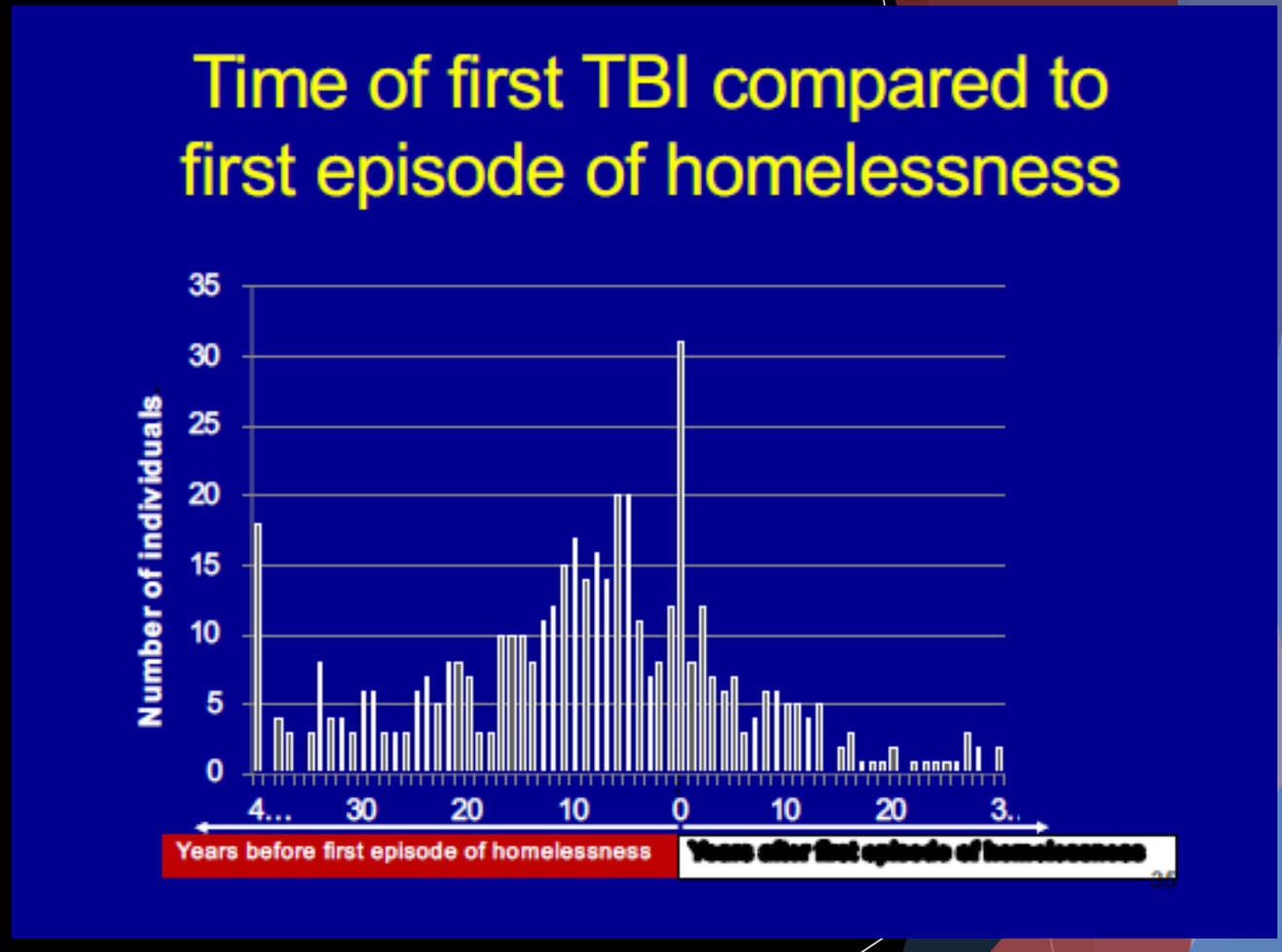
- Private practice in Wisconsin for 21 years (injury in May 1999)
- Tom Tatlock 10.30.17 - Traumatic Brain Injury – YouTube (3:16-11:50, 13:00-18:41)
- The neurosurgeon's nurse practitioner; no follow-up.
- Back to work (June 1999):
  - Part time; rested between patients.
  - Trying harder (went to gym, lost weight).
  - Looked good; colleagues expected him to "take call"
  - He and they was **clueless** regarding his own cognitive impairments.
  - Limited by extreme **fatigue**. Trying harder only made everything worse.
  - Trying unsuccessfully to hold it all together: "Emotional isometrics"

Wandering in the Wilderness

- Neurologist: c/w TBI. No assessment or referral for treatment.
- Family physician: Quit practicing immediately, perhaps forever.
- Broken leg vs broken brain.
- Rehab MD/physiatrist (April 2000): “Nothing to offer but the tincture of time.”
- Asked for recommendation for further treatment: “Look it up on the Internet.”

Cognitive rehabilitation at Mayo Clinic

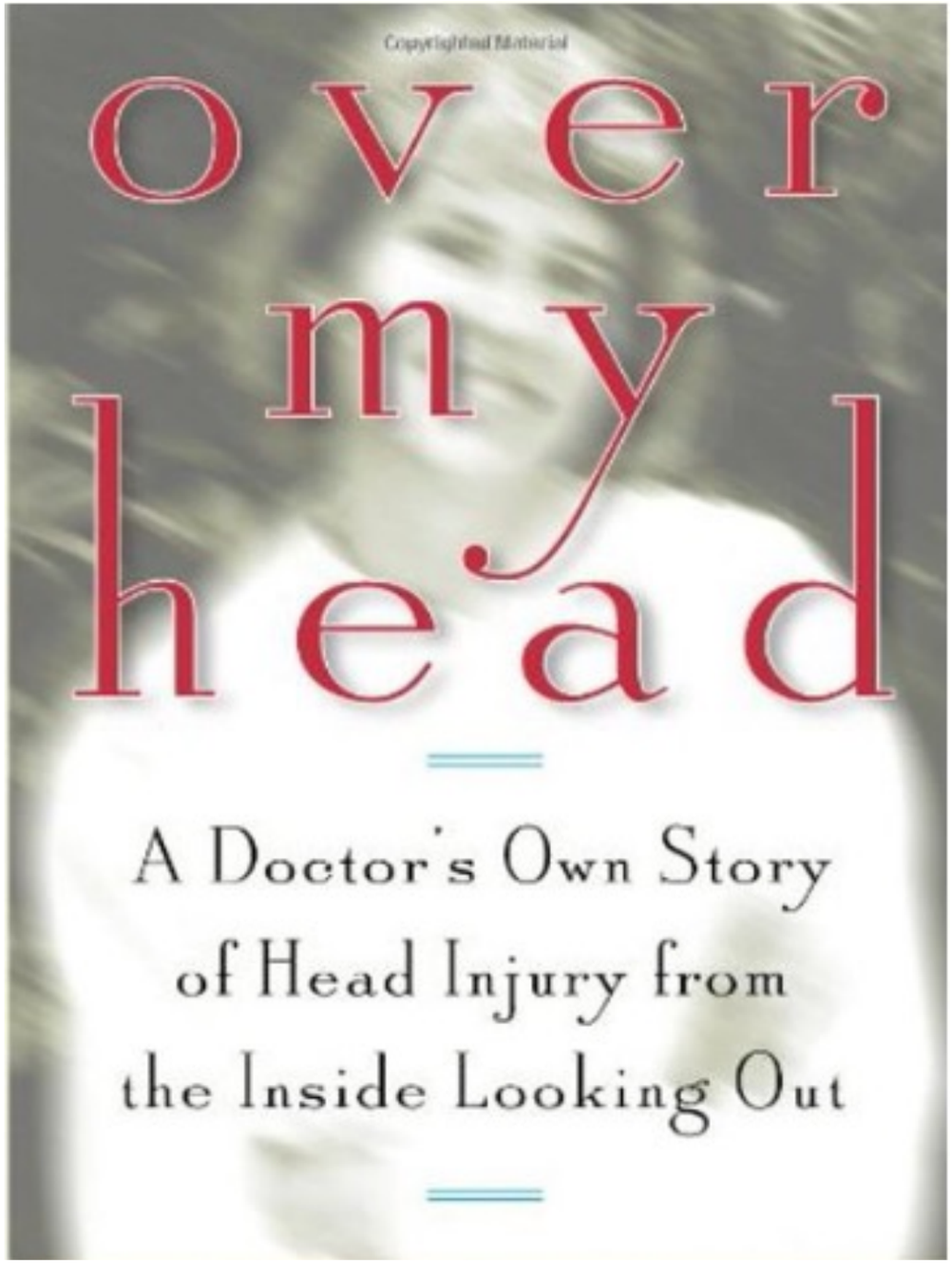
- May 2000: Went to the Brain Injury Association of Wisconsin state meeting and met two TBI professionals from Mayo Clinic.
- Team: Neuropsychiatrist, neuropsychologist (assessment and psychotherapy), and cognitive therapist.
- Learned about **anosognosia** and **dysexecutive syndrome**.
- Learned **compensation strategies** and the need to **stop the autopilot** (had to learn to use his conscious mind to adapt to his “new” brain).
- Importance of “hammock time” to relieve **neurofatigue**
- Learning to **live within my limits** less apologetically and with less guilt and shame. Stay in the zone of “sustainable competence.”



[Tom Tatlock, MD: TBI and the Homeless Population: Discussing the Problem and Exploring Possible Solutions - YouTube]

Training homeless providers to recognize TBI and accommodate to reduce “problems”

- Move client from a room by the elevator/dayroom to the end of the hall (from “aggressive” to compliant).
- Instead of giving client her task assignments while in a noisy hallway, go into her room, close the door, and supplement with a written note (from “irresponsible and lazy” to responsible and competent).
- Staff: sense of increased effectiveness; also increased understanding and empathy



Claudia Osborn, DO

- Attending in internal medicine in Detroit.
- Injury: Age 33 in 1988, not wearing a helmet, car took a wide turn and struck her bicycle. She catapulted over the car and landed on her head. Woke up in the ER. Doesn't remember that day. History of prior concussions.
- Neurosurgeon in the ER told her she had a concussion and wanted to observe her overnight. She insisted she was fine and adamant about going home. Her partner, also physician, also thought she was fine.
- First neurologist okayed her to go back to work.
- Second neurologist referred her to cognitive rehabilitation at Rusk Institute in New York.

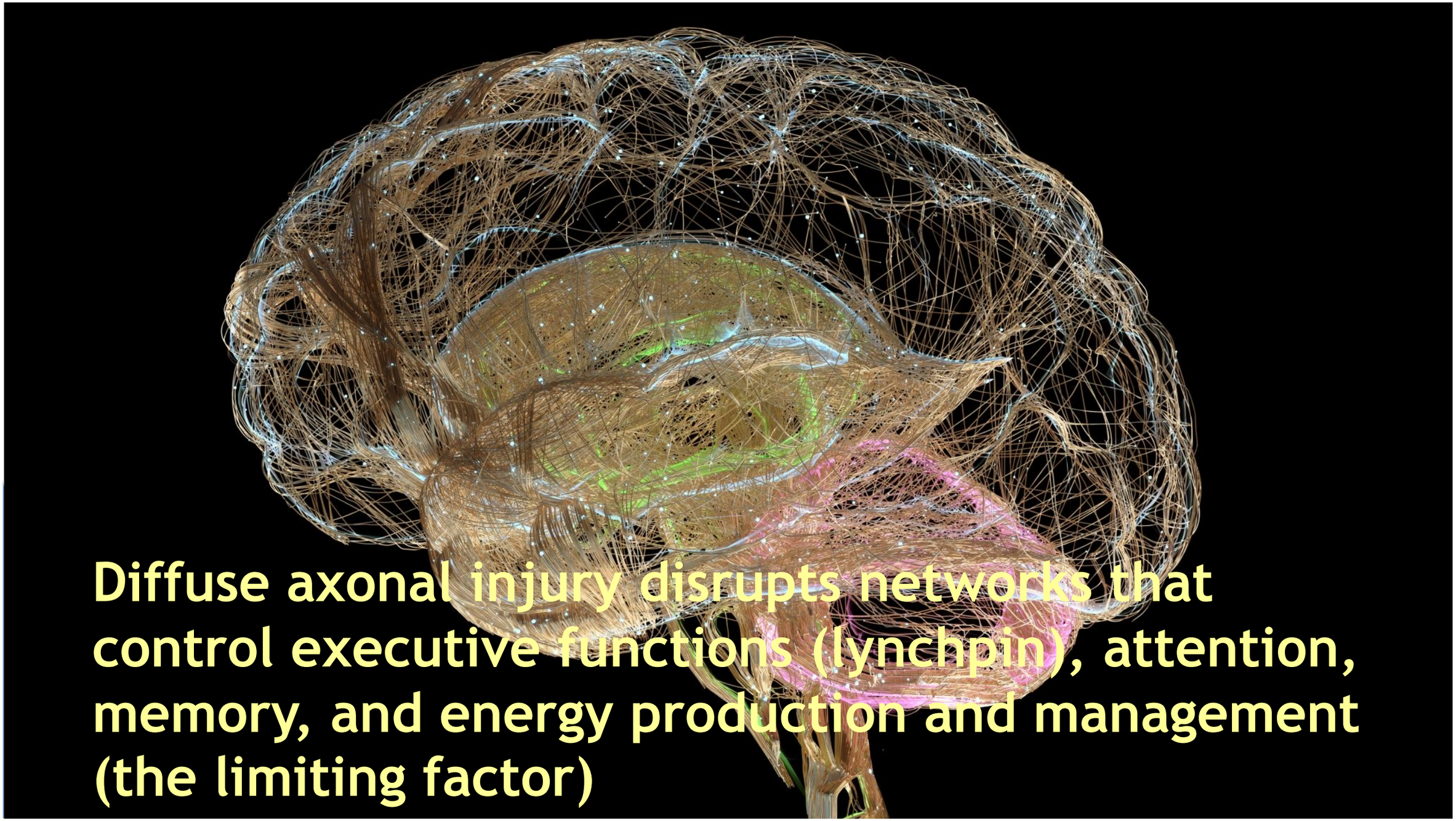
Cognitive rehabilitation and writing the book

- https://www.claudiaosborn.com/uploads/2/9/2/0/29207789/iclaudiavideo_570.mp4 (0:40-5:00; 5:30-6:00; 7:00-7:42)

TBI-BH ECHO

Claudia Osborn: subsequent recovery

- D&A Interviews Claudia Osborn – YouTube (**2:58-7:00**; 12:59-14:51; 19:15-26:00; 28:30-30:00; **30:00-32:20; 32:20-32:40**)


Diffuse axonal injury disrupts networks that control executive functions (lynchpin), attention, memory, and energy production and management (the limiting factor)

Executive Functioning

Direct and organize thought processes (metacognition)	Prioritization Planning Anticipating	Organizing Sequencing	Initiation
Response suppression / inhibition of autopilot	Sustaining focus Task maintenance Quality control	Identify problems Formulate solutions	Self-monitoring Checking Correction
Self-awareness Sense of time Judgment	Shifting focus Mental flexibility Plan B	Control emotions Patience/tolerance Personality	Working memory

TBI-BH ECHO

Dysexecutive Syndrome

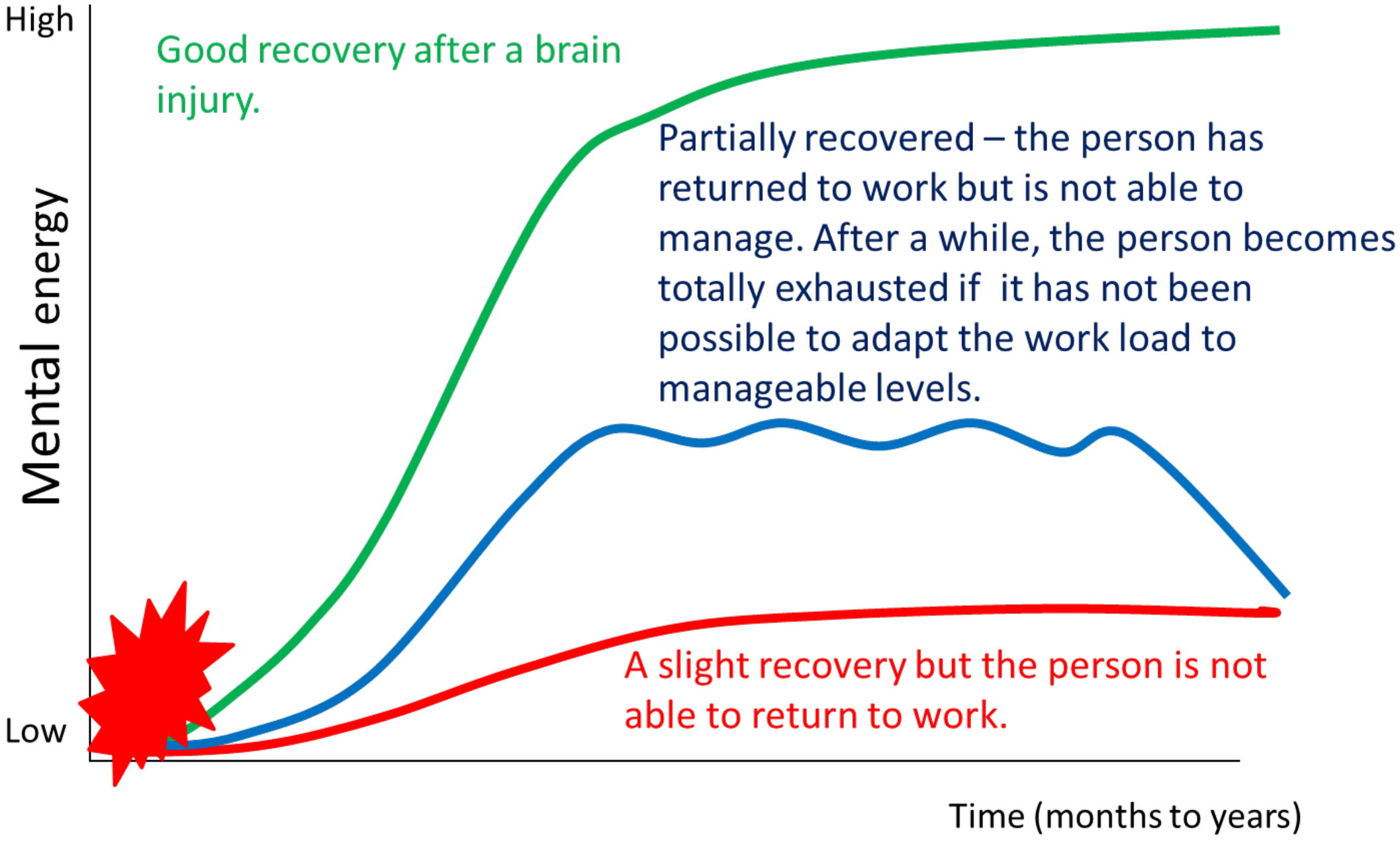
- Concrete; loss of the abstract attitude
- Lower quality of thought
- Distractible: Situational capture / environmental capture
- Decreased new learning

Dysexecutive Syndrome

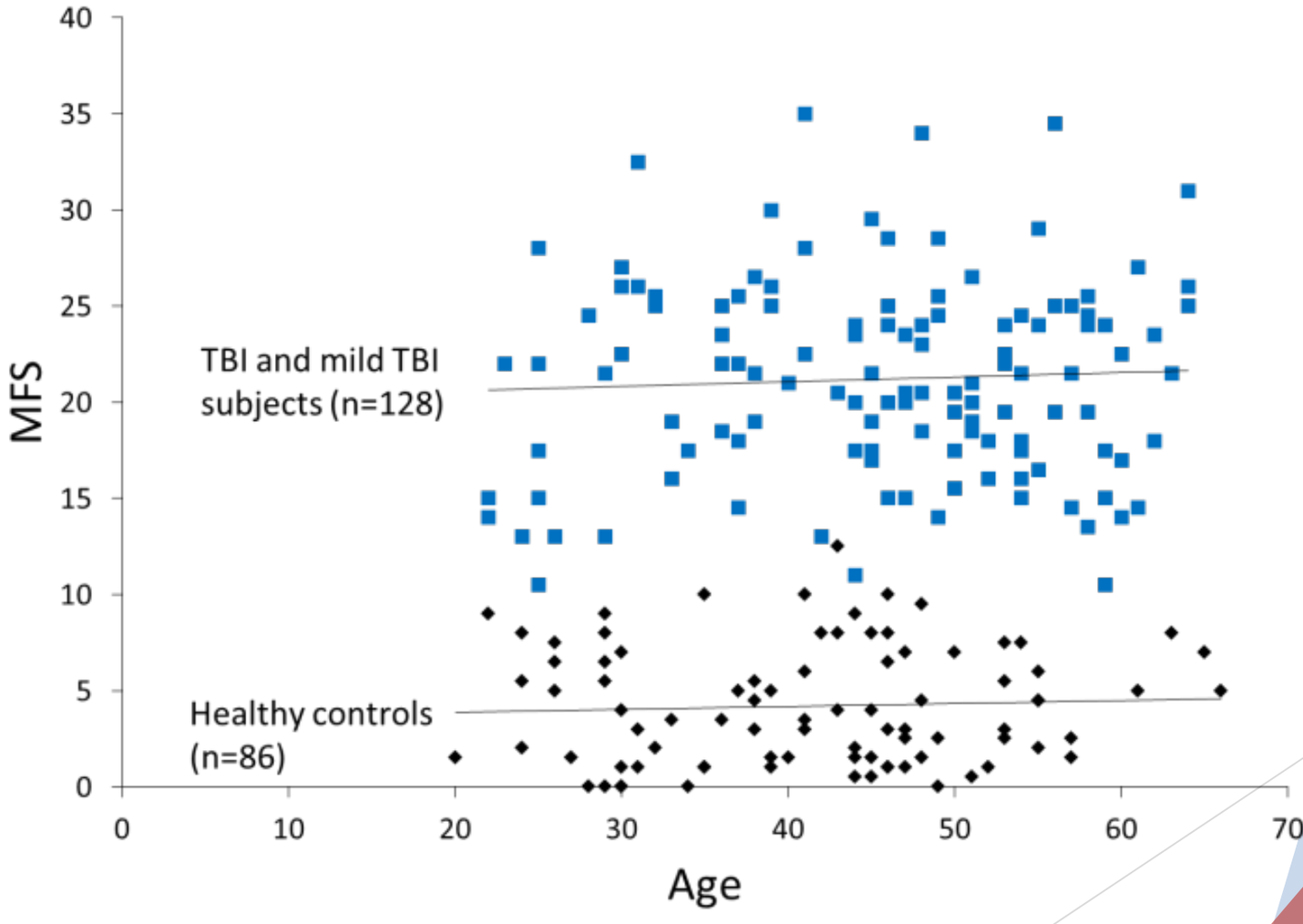
- Time disperception and mismanagement / lose efficiency
- “Ping pong” thoughts / Dense mental fog
- Lose the “helicopter view” (forest) Getting lost in the details (trees)
- Adynamia (loss of initiation) Abulia (loss of motivation)

Dysexecutive Syndrome

- Decreased capacity / less “brain reserve” / reduced stress tolerance
- Impulsivity / Lower frustration tolerance Overwhelming emotions / Acting out
- Defaults to the autopilot / routines / doesn’t recognize need to correct course
- Produces no external signs, cannot be detected by standard neurologic exam


High
Low
Mental energy
Good recovery after a brain injury.
Partially recovered – the person has returned to work but is not able to manage. After a while, the person becomes totally exhausted if it has not been possible to adapt the work load to manageable levels.
A slight recovery but the person is not able to return to work.
Time (months to years)

Fatigue and TBI



TBI-BH ECHO

https://www.intechopen.com/chapters/46126

Energy Allocation

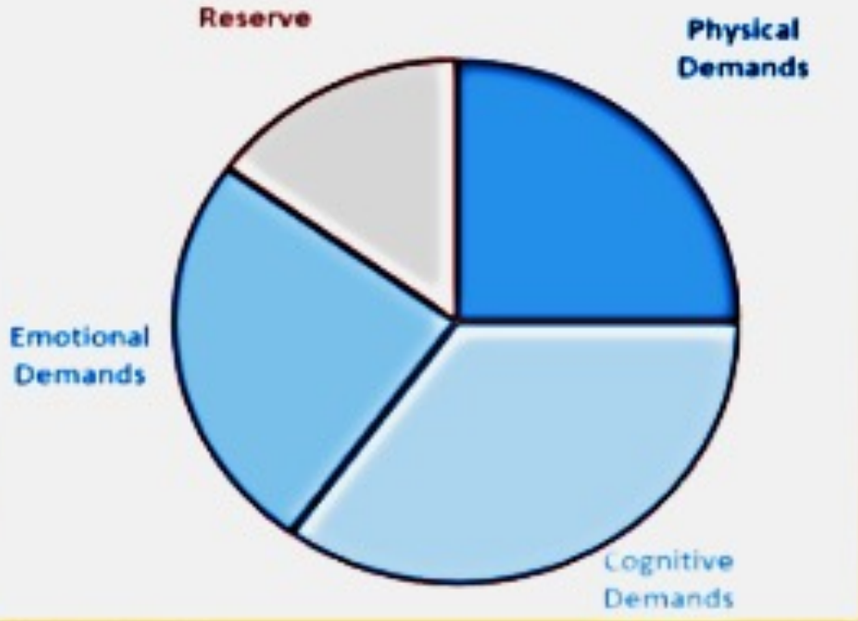
"Mary Lou Acimovic, Limited Capacity Model"

Energy Pie

Less Reserve = More Demand

Healthy Brain

TBI Brain



TBI: Limited Capacity Model

- Less Brain Reserve, More Demand
- More areas of the brain light up on functional imaging in order to do the same task.
- The lack of habituation to a task with respect to energy needed to complete a task
- Normal brain – brain's energy output automatically matches the cognitive demand.
- TBI disrupts this, possibly due to neurovascular uncoupling.
- TBI brain – energy is low output (battery never fully charges); no longer automatically matches the cognitive demand (brown out); more brain energy is needed so the battery wears down faster (black out).

Fatigue and Executive Dysfunction

- Always “bicycling into the wind” while others are “coasting without hands”
- Narrow “window of awareness”
- “Brown out” - revive with a short mental break (if caught early)
- Not stopping produces functional disability (autopilot)
- Recognize when working harder no longer produces better outcomes
- Increased effort, reduced rewards
- “Blank out” - overdrawn, need to pay back with massive interest

TBI-BH ECHO

Self-control and fatigue: a normal phenomenon

Self-Regulation is “Fatigable”

- Self-regulation fatigue (i.e., control fatigue) is a common problem in everyone, including people with executive impairments.
  - Running out of “thinking energy” part-way through the day.
  - Having more attention lapses, trouble learning, and behavioral problems when tired, stressed, or multitasking.
- Consider that everyone has self-regulation fatigue at one time or another.
- What would life be like if you already had self-regulation impairment?

Maximal cognitive recovery is rarely achieved

- Possible TBI is often completely overlooked if physical injuries are present as is often the case in motor vehicle accidents.
- Even from inpatient rehab, once a person can walk and talk without obvious difficulty, they are typically discharged with minimal to no outpatient cognitive rehabilitation once they are capable of ADL's.
- Most importantly, they are rarely examined in the context of real world, adult-level functioning, which means that survivors typically flounder when they return to their adult roles and eventually give up.
- Confusion ⇒ avoidance coping ⇒ "blissful denial" and/or despair.

Martin “Tony” Zink, III, MD, PhD

- Also graduated from my MD/PhD program, overlapped by 2 years. Graduated in May 1993.
- Married in June. Started a combined internal medicine/cardiology residency/research fellowship program at Emory in July.
- Three months later, he was hit on the driver’s side by an off-duty ambulance that had run the light. Crushed the car and pushed him into the center of the car.
- Basilar skull fracture, temporal bone fracture, small subdural bleed, 10 fractured ribs with subsequent flail chest injuries, and non-displaced femoral neck fracture.

In acute care

- Retrograde amnesia: 1 hour. **PTA: 2 weeks**.
- **GCS: 3** (faint pulse and blood pressure, unresponsive). Was questionable if he would survive.
- Multidrug-resistant, ventilator associated **pneumonia**; extubated at 12 days. Wife refused tracheostomy.
- At 3 weeks was transferred from ICU to regular ward. His neurosurgeon attending told him that that the **MD** on his name tag was a title he might be familiar with, **not a postal code** abbreviation for his home state.
- "***I started to realize that I had some 'deficits' but did not yet grasp how severe they were***. I initially thought I was deaf when I couldn't hear the TV. When I asked the nurse about it, he said to take the TV off mute. ***The fact that I could hear him argue with me about the remote didn't seem to reassure me that my hearing wasn't too bad.*** "

Insight finally dawns

- "In one session, I was asked to give a lecture on cardiac medication that would be videotaped. Having taught nursing and medical pharmacology for my PhD education, this was something I should have been able to accomplish with little preparation. My dissertation was on cardiovascular pharmacology and my defense was only 8 months prior.
- ***I thought this would be a piece of cake, and I was going to impress the whole staff with my knowledge, organization, and speaking skills***.
  - I watched the tape 2 days later and cried. ***I realized then that the blithering idiot on the tape, dressed in my clothes, had a long way to go to consider being a physician again***.

- ***For the first time since college, my confidence was not shaken but gone. My biggest gift – that of memory, reasoning, and speed of deduction – was broken***. This was not just a broken leg or left hand that was a little weak; this was my brain."
- He mistakenly thought that he had done a "great job" with his presentation. He required rehabilitation professionals (SLP, OT) to confront him with **video evidence** of his cognitively disabled performance before he could **objectively recognize his own cognitive impairments**.
  - **Only when he felt the agony of defeat**, did he find the motivation and determination to take his cognitive impairments seriously.
  - **Only when one accepts responsibility to be their own self-therapist can long-term cognitive recovery be optimized**.

Outcome

- Completed his internal medicine at Emory and a cardiology fellowship elsewhere.
- Because of his cognitive impairments, particularly dysexecutive syndrome, he has been ***unable to launch a major research effort***, as would have certainly been the case had he not had a TBI (and is characteristic of the other MD/PhD's he trained with).
- "***I can focus on one or the other. I cannot do both***. My clinical practice is what pays the bills for my family, so I have had to let my research aspirations go, at least for now."
- Serves as chief of staff for a major community hospital and carries a full patient caseload. "***I probably need more support staff than any other chief of staff***."
- Competes in marathons and Ironman competitions.

Conclusions

- "My rehab team's push for me to work full-time early on – which at the time seemed inhumane – was the best course to recovery. While extremely painful, it helped speed recovery of my cerebral function, forced me to find ways to compensate for my deficits, and regain some confidence."
- *"I feel strongly that outcomes from TBI would significantly improve if the care I received, especially the rehab, was the standard*."
- *He advocates for rehabilitation for maximal recovery "not just restoration of activities of daily living as is current practice*."
- "*TBI survivors need an advocate. A TBI patient cannot navigate the myriad of issues without some help*."

[Source: Personal conversation and published story on MedPage Today]

My TBI: Rollover MVA, crushed left temporal skull, immediate neurosurgery, 3-day coma, 7-day post-traumatic amnesia, GCS unknown (age 18 in 1984)

Table 1. Classification of TBI Severity[a] (3)

Criteria	Mild	Moderate	Severe
Structural imaging (see Recommendation 4)	Normal[b]	Normal or abnormal	Normal or abnormal
Loss of consciousness	0-30 min	>30 min and <24 hours	>24 hours
Alteration of consciousness/mental state[c]	up to 24 hours	>24 hours; severity based on other criteria	
Post-traumatic amnesia	0-1 day	>1 and <7 days	>7 days
Glasgow Coma Scale (best available score in first 24 hours)[d]	13-15	9-12	<9

[a] If a patient meets criteria in more than one category of severity, the higher severity level is assigned.

[b] No clinically relevant findings.

[c] Alteration of mental status must be immediately related to the trauma to the head. Typical symptoms would be looking and feeling dazed and uncertain of what is happening, confusion, difficulty thinking clearly or responding appropriately to mental status questions, and/or being unable to describe events immediately before or after the trauma injury event.

[d] In April 2015, the DoD released a memorandum recommending against the use of Glasgow Coma Scale scores to diagnose TBI. See the memorandum for additional information.(3)

Abbreviations: TBI: traumatic brain injury

Source: VA/DoD Clinical Practice Guideline for the Management and Rehabilitation of Post-Acute Mild Traumatic Brain Injury (2021)

Anosognosia and executive dysfunction

- Discharged without a diagnosis.
- “Push her gently”
- BA (Chemistry), MD/PhD (Pharmacology), Internship, Pathology residency, Cytopathology fellowship, finding work, first jobs, Kansas City VA (2007-2015), Bay Pines (2015-now).
- Each step along the way progressively required more executive function and caused more fatigue. My most obvious “glitches” occurred at transition points, where executive function is most needed.

Can I improve my work capacity? (2012)

- I read **Dr. Claudia Osborn's** book ***Over My Head*** and came across the term "**cognitive rehabilitation**" which I had never heard of before.
- I tried one of the compensation strategies that she learned, setting a 15-minute timers to make sure I was progressing in my work and not getting stuck. It really helped, and I wondered, ***"What else do I not know about my brain?"***
- I joined the TBI discussion boards on LinkedIn, and **Dr. Tom Tatlock** reached out to me shortly after that. He suggested that I go to Mayo for cognitive rehabilitation as he had done.

Mayo (Brain Rehabilitation Clinic)

- Neurologist: "*You are neurologically intact*."
- Internal Medicine: Screening test for sleep apnea was positive.
- Psychiatrist: "*I don't know much about brain injury, but I looked up some review articles this morning*." Suggested methylphenidate or another stimulant.
- Neuropsychologist: Did not think I needed their cognitive rehabilitation program. Recommended that I take a **5-minute cognitive break every hour** and work with a speech-language pathologist in Kansas City as a "**job coach" to learn compensation strategies.**
- Rehab physician: "*You're trying to do an 8-cylinder job with 6 cylinders. You can still get to your destination, but it takes more out of you. You should consider a part-time job*."

Self-Therapy for Adaptive Recovery

- STAR is an intensive 8-week adaptation therapy program designed by Dr. Larry Schutz (Claremont Academy of Neurocognition).
- Employed guided discovery/experiments (hard tasks disguised as easy tasks) to induce brain-injured moments.
- I studied each BIM to figure out what was it about the situation or the task that put me at risk for failure.
- I then independently came up with a plan that would use a specific compensation strategy at just the right moment to prevent a BIM when a similar situation or task occurred in the future.

The Task Difficulty Effect

- TBI does not impair functioning in any skill when tasks are familiar, routine, and unambiguous (easy tasks that can be done on autopilot).
- TBI impairs functioning in all skill areas only when tasks are of high difficulty and require supervision by the executive system, which is essentially off-line.
- Insight training is, therefore, only effective when tasks are limited to those of high difficulty (hard tasks) → Brain-Injured Moments (BIM's).

Everything hard; nothing easy

- Nothing was easy; everything was hard (harder than medical school). I was “BIM”ing all the time (the agony of defeat).
- As I learned to operate my brain with my conscious mind in the driver’s seat, I was able to anticipate and prevent BIM’s from occurring (the thrill of victory).
- I learned that I had a damaged brain, but that it was still capable of doing amazing things because I had restored adaptation through cognitive engineering.
- My brain is no longer doing real-time adaptation on its own, but I can take the helm deliberately with my conscious mind.

Graduated as my own self-therapist

- I can accomplish anything difficult as long as I carefully use my brain in a slow and careful mode, which is energy intensive.
- If something is easy, I can do it on autopilot, but if something is difficult or critical (like my diagnostic work), I always proceed in slow and careful mode to sustain my attention and ensure accuracy.
- By preventing attention lapses, my thinking became more efficient, and I could complete my work more quickly.
- Along the way, I learned to “power up” my brain at just the right moments to jump the hurdles I had trouble facing before.

Self-therapy produces adaptation

- STAR (April-May 2013)
- Husband's cancer (Dec 2013)
- Completed adaptation to KCVA
- Service chief: The difference between my and my colleagues became inapparent, occurred immediately after STAR.
- Oldest colleague: Like a gallbladder. It was a problem. You took care of it. Now it's gone.
- Maximum number of cases at KCVA was around 2150 (with residents doing the grossing).

Challenges faced at Bay Pines VA (2015-2022)

- Grossing my own cases. No transcription for diagnosis.
- Progressive increase of caseload
  - 1750 total cases in 2015
  - 2500 total cases in 2020-2021(evidence of adaptation)
- Short staffing
  - 7 pathology vacancies in 7 years
  - Majority of time with 1-2 pathologists down
  - Shortage of histologists
  - Shortage or absence of transcriptionists

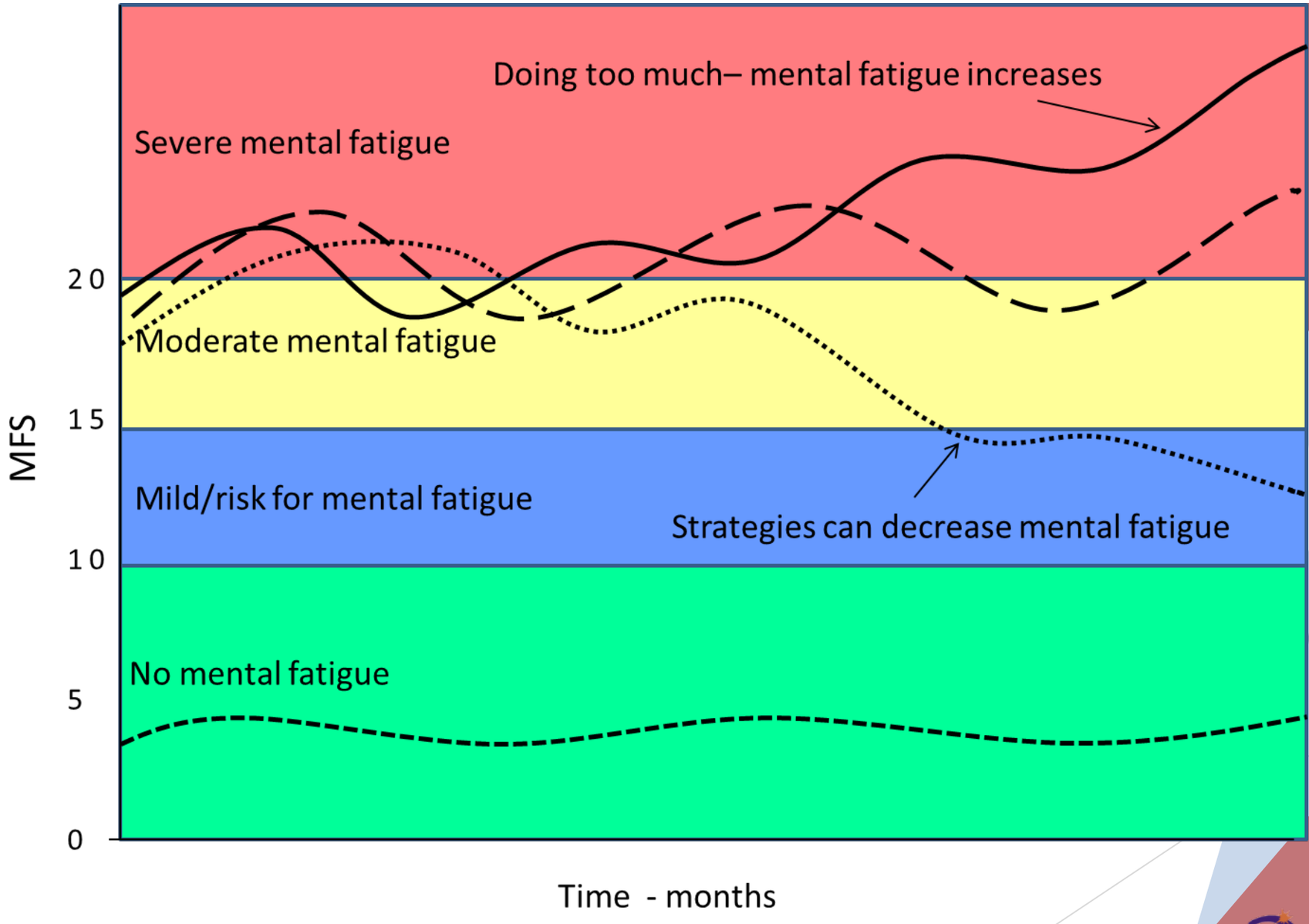
Limited capacity

- Main compensation strategy: Live 5 minutes away
- Working without reasonable accommodation for the entirety of my time at Bay Pines.
- Everything must be done in “slow and careful” mode to ensure accuracy. Cannot speed up or take short cuts.
- More cases, more hours, more fatigue.
- Not a question of quality, but intermittently not meeting turnaround times, especially when two pathologists down.

Working long hours

- Time-accuracy tradeoff depending on executive component
  - Easy cases (recognition, routine cases): Typically take 20% longer than other pathologists
  - Hard cases: Vary widely depending on degree of fatigue (50-300% longer)

- Can handle load of full-time pathologist when fully staffed
  - Typically work 50-55 hours/week (can usually handle life's challenges); fatigue is present but can maintain energy with short breaks.
  - **I consider this normal and acceptable**.


Doing too much– mental fatigue increases
Severe mental fatigue
20
Moderate mental fatigue
15
MFS
Mild/risk for mental fatigue
Strategies can decrease mental fatigue
10
No mental fatigue
5
0
Time - months

My conclusions

- I solved my brain injury, one brain-injured moment at a time.
- My cognitive impairments may be permanent, but functional disability is “negotiable.”
- Self-therapy is adaptation. How well I do is up to me.
- Under normal work conditions, I am not functionally disabled.
- However, my capacity is limited by fatigue.
- Overwork induces functional disability.
- I will not sacrifice quality, but I can adjust my expectations and ask for the reasonable accommodation I need, especially when the department is short staffed.

Self–Therapy ➔ Adaptation

- Prevent BIM's
- Minimize disability
- Optimize recovery
- Restore self-efficacy
- Hope for the future

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Conditional Self-Efficacy

- Negative expectation:

  Old ways (AUTOPILOT)

  ➔ FAILURE

- Positive expectation:

  New ways (CONTROL BY CONCIOUS MIND)

  ➔ SUCCESS

- Critical variable:

  How do I allow my brain to operate?

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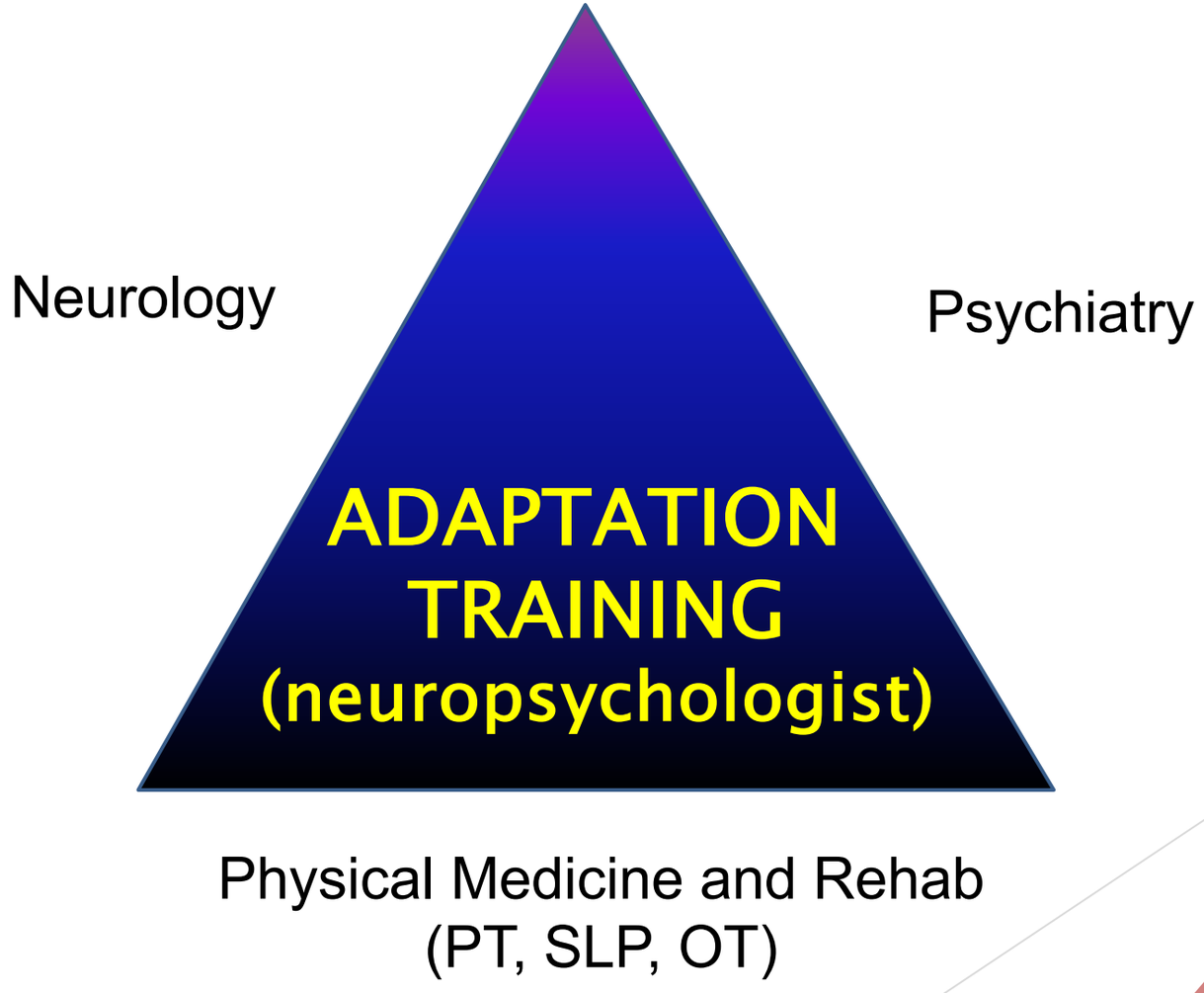
Before injury

After injury (discontinuity)

Recovery (restoring continuity)

The Solution – not in the medical model



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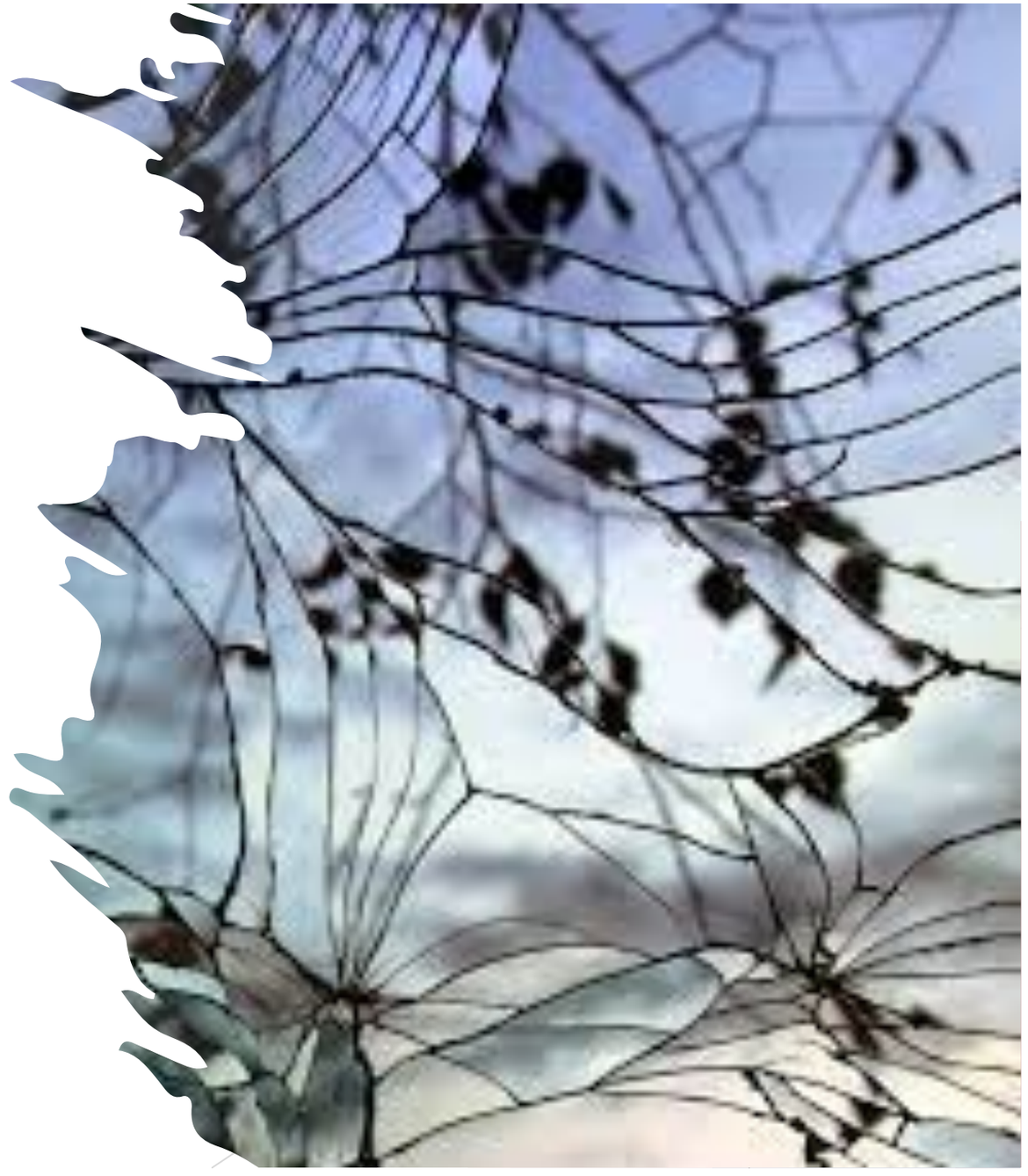
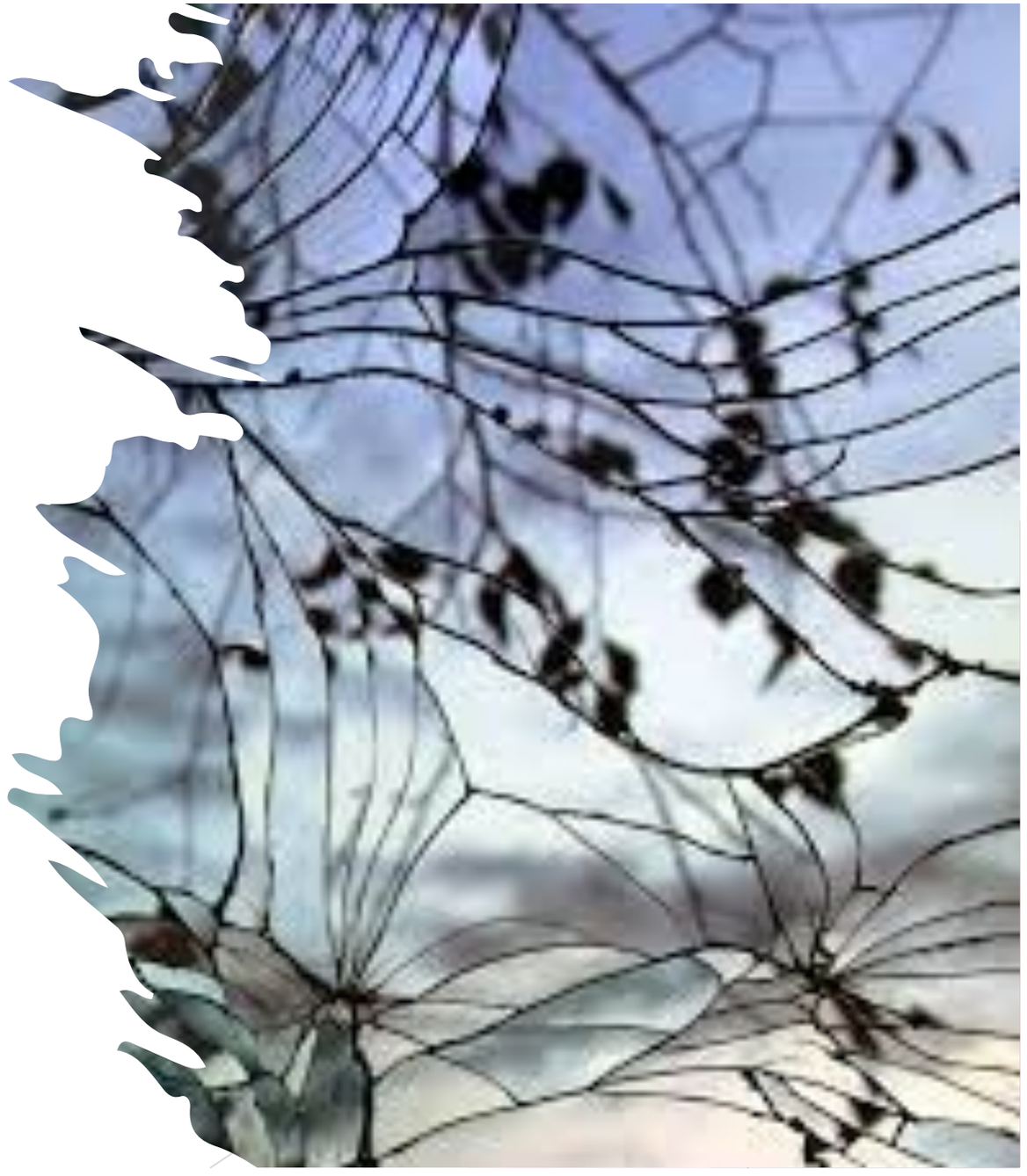
Anosognosia (unawareness of deficit)

- Describes a person with a disability who is cognitively unaware of having the disability due to an underlying physical condition (ex. dementia, TBI).
- Unawareness of deficit, not corrected with simple instruction.
- Like the brain's internal mirror is shattered, and the brain cannot detect or evaluate its own dysfunction.



Anosognosia: poor prognostic indicator

- Constant feature in moderate to severe TBI but also for the miserable minority subset of mild TBI.
- Anosognosia ➔ lack of adaptation to cognitive impairments/deficits
- Anosognosia indicates a poor prognosis for outcome and resistance to treatment.



Anosognosia – impacts staging of mild TBI

- Dogma: Mild TBI typically resolves within 1-3 months.
- If the patient is reporting no symptoms at the end of three months, the patient is considered “healed” and typically discharged from any sort of follow-up in the medical system.
- Problem: Anosognosia means that those who are the most cognitively impaired will either report no symptoms or underreport them.

Anosognosia – corroboration needed

- When conducting follow-up assessments, need to have the corroboration of a close friend, family member, and/or employer.
- Those who belong to the “miserable minority” may be less cognitively impaired than those who report no symptoms.
- Nonetheless, those who have the most significant cognitive impairments are not likely to present to clinic asking to be evaluated for a TBI. They are likely never to return for any neurologic service.

Anosognosia => Cluelessness of MD's

- Relying on self-report regarding clearance of postconcussive symptoms means that a large percentage of those who have significant and enduring cognitive impairment are missed.
- Relying on self-report has steered the entire field in the wrong direction and has contributed to the overall cluelessness of the medical system at large regarding the impact, prognosis, and the need for increased access to the best models of cognitive rehabilitation.

Is TBI-induced mental illness “primary” or “secondary?

- Some evidence that depression and anxiety can be prevented or ameliorated by early referral to cognitive rehabilitation
- Cognitive rehabilitation has been shown to decrease suicidality.
- Early recognition by primary providers and referral for diagnosis and treatment is essential to prevent or reduce secondary effects of mental illness, suicide, substance abuse, criminality.

“Statistics are just people with their tears wiped away.”

- Tom Tatlock, MD

GiveBack International

- Dr. Larry Schutz wrote two manuals of “do it yourself” self-therapy for brain injury: one for survivors and the other for family members and friends.
- These can be used for GiveBack recovery (not support) groups. They are not available on line, but I can email them to you (mromanas@outlook.com).
- I can also provide guidance on how to start or run a GiveBack group.
- The link to the archived webinar recording on the Brain Injury Association of America website: Brain Injured Moments (biausa.org)

Book: Head Injury Recovery in Real Life

- Head Injury Recovery in Real Life: 9781597563789: Medicine & Health Science Books @ Amazon.com
- Written by Larry Schutz, PhD (specialist in holistic cognitive rehabilitation, trained by the former partner of the Rusk program) and his son Michael Schutz (bachelor's in journalism).
- Autobiographical accounts of 15 of the best long-term recoveries from a population of 1800 discharged patients at an advanced cognitive rehabilitation program.
- Chapter 2: How Recovery Works – in the Clinic and in Real Life – should be required reading for every medical provider.

Free archived webinar for survivors on “Brain-Injured Moments”

- People with brain injury may experience intermittent problems in cognitive functioning that may make them feel that they are at the mercy of their injuries. Fortunately, most cognitive impairments caused by brain injury are not constant and only cause trouble at certain times in certain places and follow predictable patterns.
- Dr. Maria Romanas discusses strategies to help you pay attention to, write down, and understand your "Brain-Injured Moments." By doing this, you can discover your own particular patterns of Brain-Injured Moments so that you can learn to anticipate them and even prevent them from occurring. This practical approach can help you gain control control, accelerate your recovery, and maximize your functioning.
- To find this free archived webinar, search for Romanas at www.biausa.org,

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