

The Role of Neuropsychology in Traumatic Brain Injury

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Ochsner Regional Neurosciences Symposium

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Disclosure

- I have no financial conflicts to disclose

Objectives

- Identify the cognitive needs of individuals with traumatic brain injury (TBI)
- Identify the psychological needs of individuals with TBI
- Understand the role neuropsychology plays in evaluating cognitive and emotional functioning following TBI at different phases of recovery

Area of Focus

Criteria	Mild	Moderate	Severe
Structural Imaging	Normal	Normal or abnormal	Normal or abnormal
Loss of Consciousness	< 30 minutes	30 minutes to 24 hours	>24 hours
Alteration of Consciousness/Mental State	A moment to 24 hours	>24 hours	>24 hours
Post-traumatic Amnesia	0–1 day	>1 and <7 days	>7 days
Glasgow Coma Scale (best available score in 24 hours)	13–15	9–12	3–8

TBI = traumatic brain injury.

Note: This table describes the predominant ways in which TBI severity is assessed.

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Typical Course of Recovery

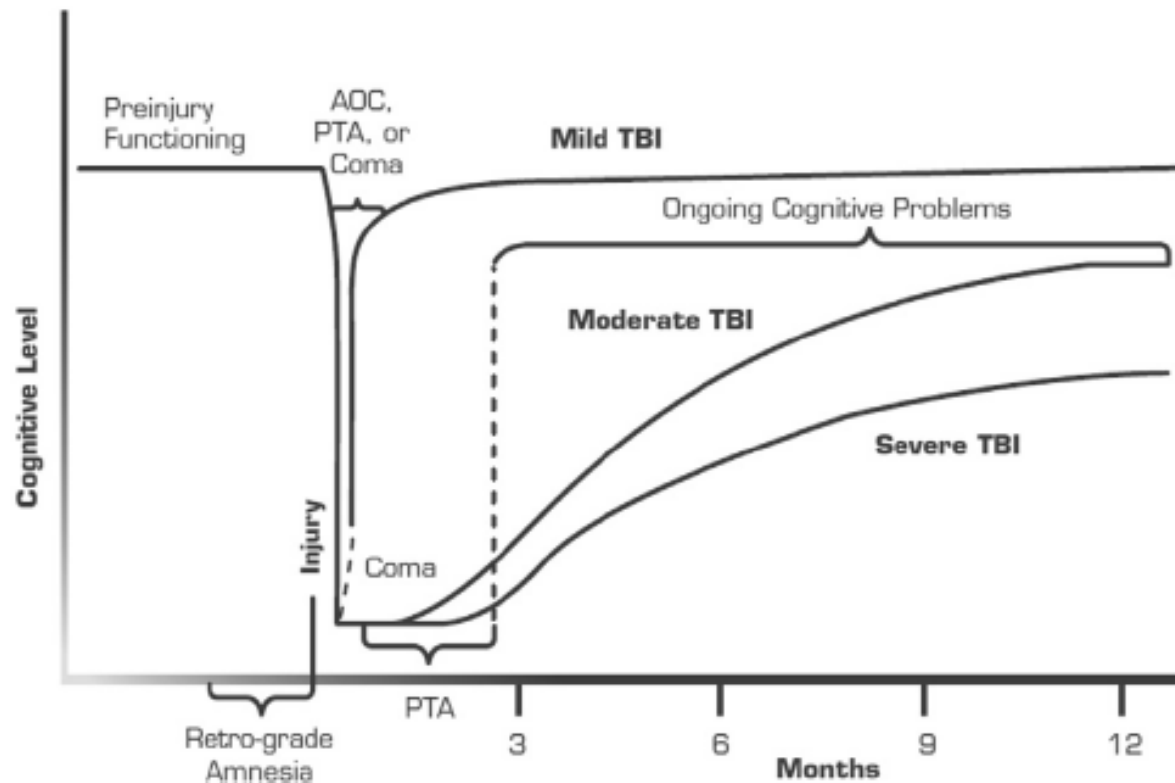


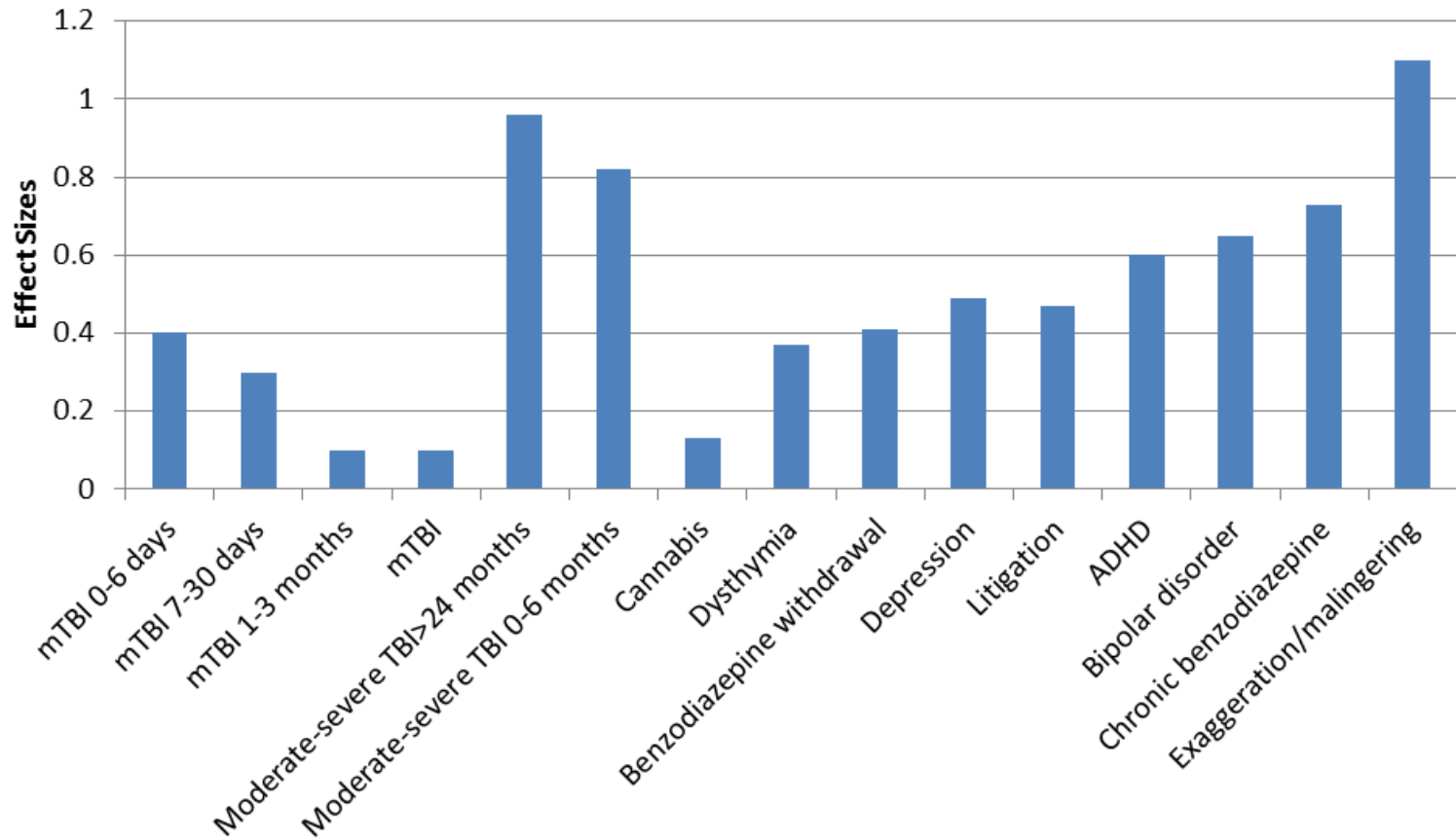
Fig. 1. Hypothetical cognitive function recovery paths. Reprinted, with permission, from Employee Education System. Traumatic Brain Injury: Independent Study Course. Department of Veterans Affairs; 2010: p. 17. AOC, alteration of consciousness; PTA, posttraumatic amnesia; TBI, traumatic brain injury.

Cognitive Impacts



Cognitive Impacts

Impact on Overall Cognitive Functioning



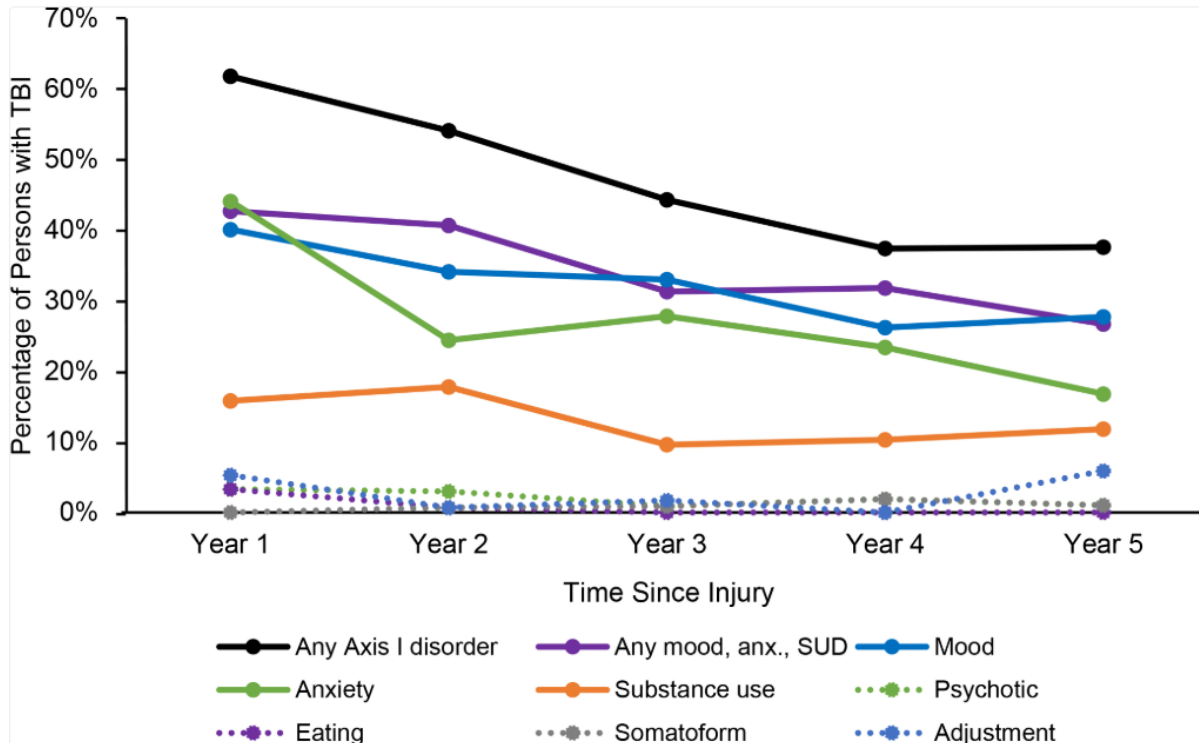
Source (Iverson, 2005)

Psychological Impacts



Psychological Impacts

Figure 1:



Annual prevalence of different classes of psychiatric disorder in the prospective study of moderate-severe TBI from Alway et al. (54). Diagnostic and Statistical Manual of Mental Disorders—Fourth Edition (DSM-IV) Axis I diagnoses were determined via structured clinical interview. Mood, anxiety, and substance use disorders were most prevalent DSM-IV Axis I disorders across five years of follow-up post-injury, with a steady decline in prevalence over time.

What is Neuropsychology?



Clinical Neuropsychology: a specialty that applies principles of assessment and intervention based upon the scientific study of human behavior as it relates to normal and abnormal functioning of the central nervous system. Aims to enhance the understanding of brain-behavior relationships and the application of such knowledge to human problems. (CRSPPP, 2010)



Clinical neuropsychologists are licensed professionals within the field of psychology with special expertise in the applied science of brain-behavior relationships. (NAN, 2001)



Evaluation following TBI is common (82.7%) in general clinical practice. (Sweet et al., 2020)

Acute Phase

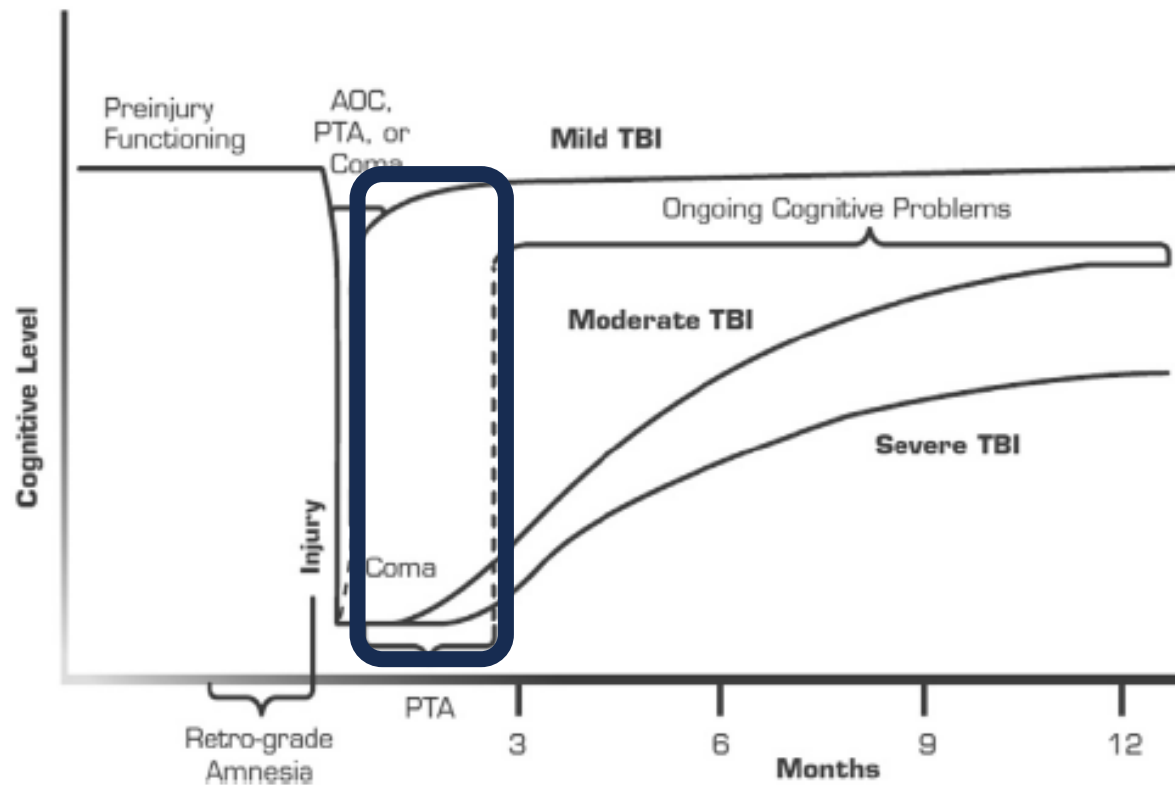


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Readiness for Assessment



Inpatient Phase

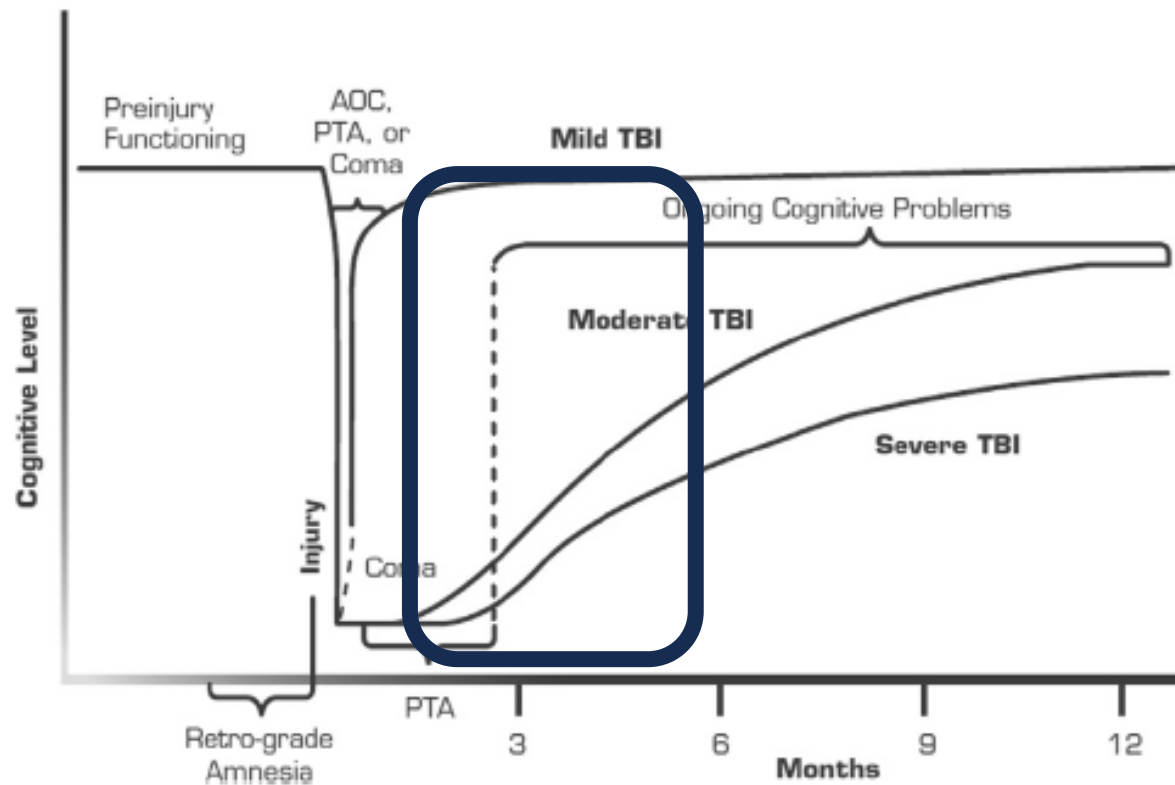
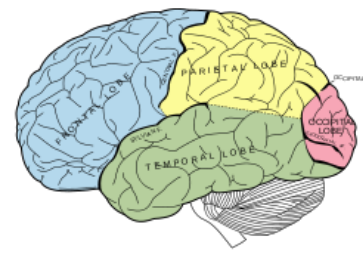


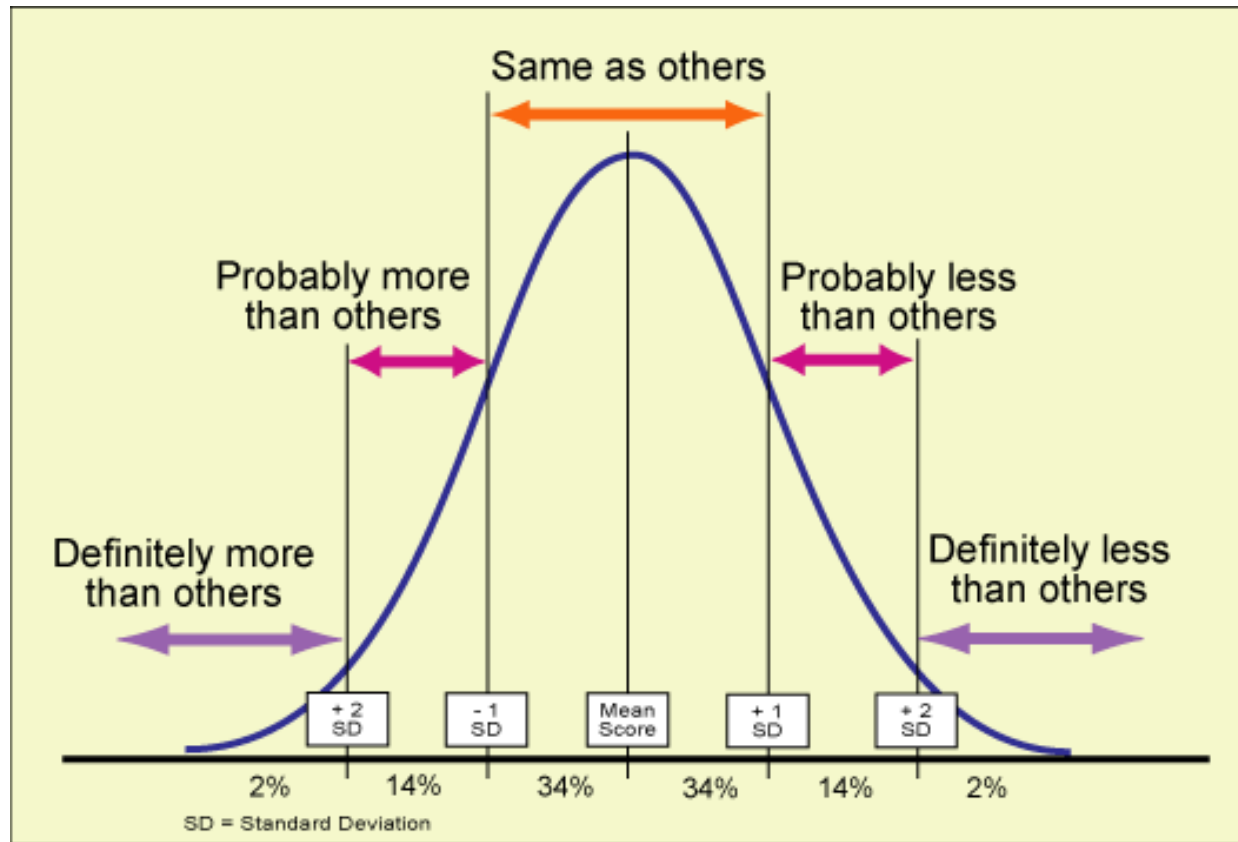
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Assessment Areas

- **Intellectual**
- **Academic**
- **Cognitive**
 - Attn/Concentration
 - Speech/Language
 - Visual-Spatial Functions
 - Executive Functioning
 - Learning/Memory
 - Sensory & Motor
- **Psychological**
 - Objective
 - Rating Scales
 - Projective
 - Unstructured
- **Validity**
 - Performance
 - Symptom

Comparisons



Always Thoughtfully Consider the Person in Front of You...



Outpatient Phase

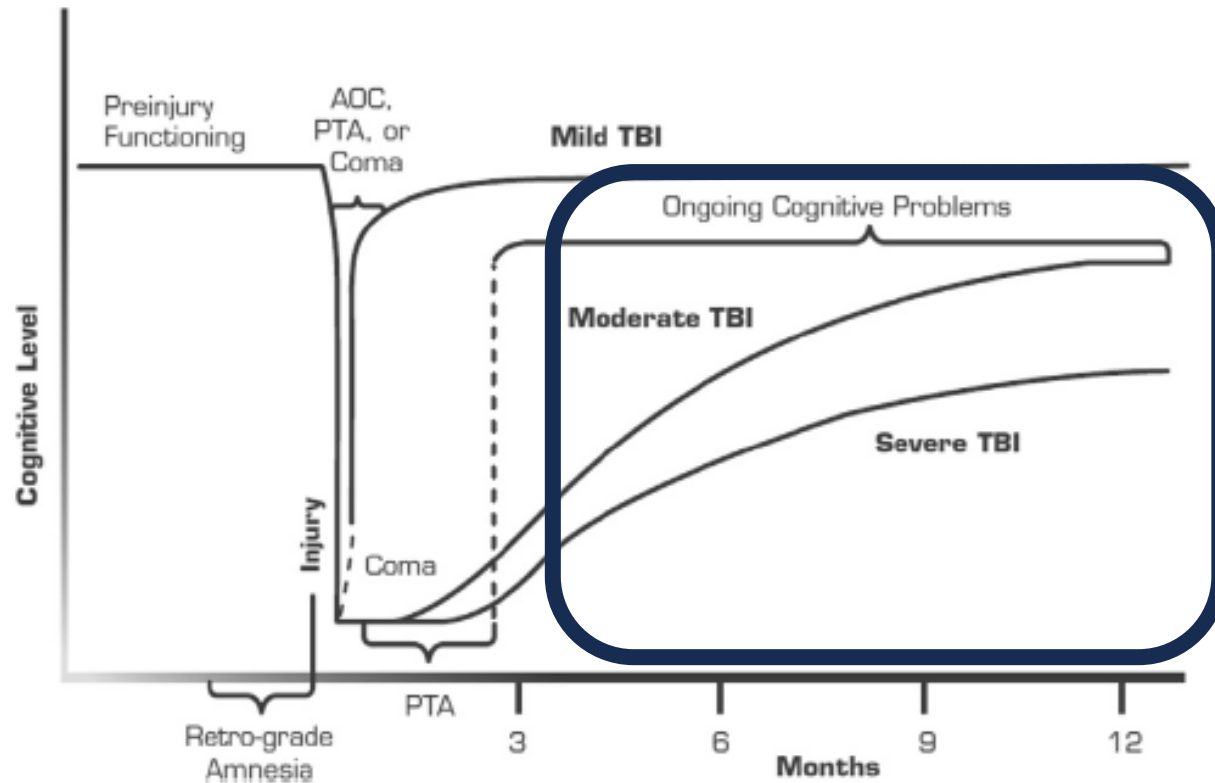


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Outpatient Phase



Questions and Contact Information

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