Tips From a Neuropsychologist: Understanding Traumatic Brain Injuries

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Advertised Agenda

- Anatomy of the Brain
- Types of Brain Injures – in Detail
- What to Look for in Medical Records
- Deciphering Brain Injury Medical Terminology
- Identifying a Traumatic Brain Injury
- Clinical Examination and Testing – in Detail
- Diagnosing, Recording and Reporting
- Framing the Degree of Gross Damage (Mild-to-Moderate)
- Functional Limitations of Mild Brain Injuries (No Fracture)
- Co-Occurring Psychiatric Disorders – Proving Exacerbation
- Treatment of a Closed Head Brain Injury

Practical Agenda

- What is a neuropsychologist?
- How do you know you need an expert neuropsychologist?
- What do neuropsychologists do?
- Understanding the brain and the mind.
- What must an expert report contain?
- Treatment and prognosis.
- Evaluating the strength of the evidence of an opposing expert.
- Sample Cases

Difference between a clinical and neuropsychologist.

Referral to a clinician is typically for diagnosis and possible treatment. Referral to a neuropsychologist is to define the cause and nature of the problem and possible treatment.

Difference between a clinical neuropsychologist and a forensic neuropsychologist.

A forensic neuropsychologist must adhere to a higher scientific standard. Opinions should be first based on the standard of science and second filtered through professional experience.

I Evaluate:

- Ability
- Knowledge
- Skill

Neuropsychological assessment begins with the collection and measurement of brain based skills responsible for thinking, learning, feeling and behavior.

Neuropsychological assessment then involves developing an understanding of the complex interaction of these skills with each other and with environmental factors.

Finally, neuropsychological assessment concludes with etiological opinions and prescriptive interventions.

Neuropsychological Assessments Follow a Logical Course

- Knowledge of the brain and body
- Educational history
- Vocation history
- Personal and psychiatric history

Neuropsychological Assessments Follow a Logical Course

- Nature of trauma
- Immediate and subsequent symptom course
- The integration of historical, qualitative and quantitative data as a means of testing hypotheses and prescribing intervention

Critical Issues

- Demographics
- Pre-injury life.
- Symptoms vs. consequences
- Categories vs. dimensions
- Developmental pathways: accept a moment in time
- There are no shortcuts
- Assess the environment

Critical Issues

- Assess for intervention
- Understand sensitivity vs. specificity
- Begin with the disruptive/non-disruptive continuum
- Keep low incidence disorders in mind
- Resilience (protective) factors
- Tests used during the assessment predict some but not the majority of impairment TBI patients experience.

Cognitive inefficieny is challenging to measure in non-real world settings. Yet this is the most impairing aspect of a TBI.

Cognitive inefficiency is also a consequence of chronic pain, stress and/or emotional challenges.

The Unholy Trinity of TBI

- Physical injuries causing chronic pain.
- Physical injuries causing neuropsychological injuries.
- An event causing emotional injuries.

Component Skills Measured in a Neuropsychological Assessment

- Neuropsychological Abilities
- Language
- Intellect
- Sensorimotor Functions
- Visuospatial Functions
- Memory and Learning
- Executive Functions
- Achievement
- Pain, Emotional State and Personality Style

Neuropsychological Abilities

- Direction of Attention
- Simultaneous
- Planning
- Sequential

Attention

- Selective
- Span
- Sustained
- Activity level
- Divided

Language

- Motor production
- Verbal expression
- Phonemic decoding
- Naming
- Verbal Comprehension

Sensorimotor Functions

- Psychomotor speed
- Tactile recognition
- Production of motor series
- Sensorimotor differentiation

Visuospatial Functions

- Visual perception
- Visuospatial judgment
- Visuoconstructive performance
- Graphomotor production

Pain, Emotional State and Personality Style

- Current psychiatric condition (e.g. Post traumatic stress disorder, depression, anxiety, etc)
- Personality style or disorder (e.g. anti-social, dependent, narcissistic)
- Chronicity, severity and number of pain sites

Memory and Learning

- Visual short term memory
- Verbal short term memory
- Long term memory
- Simple naming memory
- Complex verbal memory

Executive Functions

- Planning
- Strategizing
- Inhibition
- Flexibility
- Fluency
- Problem solving
- Self-regulation

What are the relative benefits and liabilities of norm vs. brain injured standardized tests?

What are the relative benefits and liabilities of battery vs. selective testing?

General Guidelines for Neuropsychological Evaluation

- All educationally relevant skills must be evaluated.
- Consideration be given to assess left vs. right hemisphere functions.
- Consideration should be made to assess input vs. output problems.
- Testing should focus upon identifying specific deficits.

General Guidelines for Neuropsychological Evaluation

- A distinction should be made between acute vs. chronic problems.
- Assessment should be strength focused.
- Test results should be presented in ways that are useful to consumers (e.g. family, school, etc.).
- The least amount of assessment needed to answer referral questions should be done.

Essential Data

- Rote verbal and visual label, sequence and associational skills
- Verbal and visual reasoning, judgement and conceptual skills
- Attention and impulse control
- Fine and large motor skills
- Mindset
- Environment

Essential Components of a Report

- Thorough review and documentation of medical, educational and vocational records.
- Through history.
- Self report measures (symptom lists and norm referenced).
- Reports of others (if available).
- Summary of assessment data.
- Opinions.

Rule 26 versus 35?

Deposing the Expert

- Training, Experience, Qualifications, Work.
- Scientific work (research, publications, tests, etc.).
- Types of patients seen.
- Start with opinions.
- Seek supporting data for each opinion.
- Don't waste time on minutia.
- Prime objective is to understand not to challenge.

Presenting the Expert in Court

- Training, Experience, Qualifications, Work.
- Scientific work (research, publications, tests, etc.).
- Types of patients seen.
- Start with opinions.
- Seek brief supporting data for each opinion.
- Don't waste time on minutia.
- Prime objective is to leave jury and/or Judge with 3 critical ideas they did not have.

Cross Examining the Opposing Expert

- Training, Experience, Qualifications, Work (briefly and only if there is something to gain).
- Types of patients seen (forensic versus clinical).
- Review each opinion only if there is something to gain.
- Review supporting data for each opinion inquiring if there is any data in contrary to the opinion.
- Don't waste time on minutia.
- Prime objective is to leave jury and/or Judge with questions about the 3 critical ideas they acquired from the opposing expert.

Why is there a disconnect sometimes between severity of physical injury and functional limitations.

Why don't some people recover?

Should your forensic expert treat?

Human Beings Are Complicated!

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