Mild Traumatic Brain Injury: *Fact from Fiction*

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Why this info is important to you

-Early assessment + Accurate diagnosis =
 Effective treatment plan
 Avoiding Iatrogenic problems
 Avoiding unnecessary lengthy/costly tx

-Better patient outcomes for less money

-Rate of excessive medical costs in MVC's is 35-42%!!

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What is Neuropsychology?

- Study of the relationship between brain functioning and cognition/behavior
- A way of collecting neurocognitive & behavioral data
- Components of neuroscience and behavioral science

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Common Case Types

- TBI
- Pain/Somatic Complaints
- Electrical Injury
- Toxic Exposure
- Emotional Injury (PTSD, Depression)

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Common Referral Questions

- Effects of Injury
- Return to Work/Restrictions
- Tx Planning (meds, surgeries, therapies)
- Sx Validity Questions
- Causality/Exacerbation
- MMI
- Case Reviews
- Second opinions

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Breaking the Stereotype of Psych/Neuropsych Referrals

- Assumption: bogged down in prolonged tx
- Reality: Will expedite recovery if done correctly
- Must be based on objectivity & empirical research, not subjective complaints
- Our role is facilitation/restoration of functionality, not pt protectors

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The Neuropsychological Evaluation

- Evaluation lasts several hours
- Includes:
  - Record Review
  - Interview
  - Testing
- Report with Results, Conclusions, Dx, Recommendations

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What is Evaluated?

- IQ
- Motor skills
- Visual perceptual/constructional skills
- Language
- Attention
- Memory
- Executive functioning
- Emotional functioning
- Validity

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Validity Testing

- Cognitive Performance
- Emotional Sx
- Somatic Sx

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Performance/Sx Validity Testing

- Impairment vs. poor effort/feigning
- Test construction – score cutoffs
- Failure on at least 2 SVT's = 95-100% chance of non-credible sx
- Virtually guaranteeing the pt is feigning
- 40-50% failure rate in litigants/disability claims—secondary gain
- Effort is 5x more important than TBI, regardless of severity

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When to Disregard Validity Testing

- Disregarding this = collusion with feigning pt
- To fail PVT = IQ in the 60's (40-point drop)
- Institutionalized dementia pt needing 24/7 supervision
- NOT with: depression, PTSD, attentional lapses, fatigue, or pain
- MMPI-2

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Mild Traumatic Brain Injury

- Appropriate dx is important
  - LOC $\leq$ 30 min
  - PTA $\leq$ 24hrs
  - Altered mental state at the time of the accident
  - Focal neurological deficits
- Mild, uncomplicated TBI
- Not dx'd based on subjective sx

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MTBI Outcomes

- Dose-response of TBI to sequelae
  - E.g., loss of 2/3 SD from IQ = 8 days LOC
- Do 15% of MTBI pts have lasting sequelae?
- NO -- Cog & emotional sequelae ALWAYS resolve
- Typically in 10-14 days, & DEFINITIVELY by 3 months

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Postconcussive Syndrome??

- Headache
- Dizziness
- Light/Sound sensitivity
- Fatigue
- Emotional changes
- Irritibility
- Insomnia
- Cognitive complaints
- IS THIS RELATED TO TBI??

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Postconcussive Syndrome??

- High rate of sx in normal population
- Twice as likely in litigants
- More common in mild than mod/sev TBI
- Pre-existing psych sx are best predictor of lasting PCS
- Sequelae NEVER worsen over time from TBI without complications (ICH)

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Postconcussive Syndrome??

- There is no scientific basis for PCS dx
- Dx is based on subjective complaints
- No convergent validity with TBI
- No discriminant validity from other injuries
- More appropriately categorized as a Somatic Sx Disorder vs. Malingering

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Somatic Sx Disorder

- Displacement of stress into physical sx
- Unexplained physical sx are psychogenic (e.g., pain, sensory, motor)
- Arises when there is a "need" for sx

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Somatic Sx Disorder

- Unrelated to trauma
- Poor response to medical tx
- 91% of vets with this dx met criteria for PCS (without TBI)
- 40-60% of vets with dx of PTSD/MDD meet dx criteria for PCS (without TBI)

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3 Reasons for Chronic mTBI sx

- Malingering
- Somatic Sx Disorder / Psychiatric problems
- Actual cognitive abnormalities due to other etiologies that are misattributed to mTBI

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Impact of Repeat mTBI's

- "Eggshell plaintiff"
- Most studies find no relationship
- NFL -- hundreds of blows to head may cause earlier dementia
- This doesn't apply to a pt with a few mTBI's

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Relationship of PTSD & mTBI sx

- Inverse relationship: worse TBI = less PTSD
- Pts with mTBI & full PTSD sx:
  - 52-69% fail one cognitive PVT
  - 88% exceed cutoffs on MMPI-2 FBS

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PTSD Outcomes

- Less than 50% of individuals who are exposed to ***life-threatening*** trauma develop PTSD
- Of those who do meet criteria for PTSD, two-thirds recover completely in 3 months
- Returning veterans: Only 7% with negative initial screen are positive 6 months later
- Very low rate of delayed onset

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Multiple Chemical Sensitivity (MCS)

- Little evidence MCS is an organic disorder
- Approx. 50% fail multiple cognitive PVT's, even when test cutoffs are set at 99% specificity
- >80% fail MMPI-2 FBS
- MCS & mold-related complaints are driven by psychological factors or malingering

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Things to Remember:

- Neuropsych evals satisfy Daubert and provide compelling info with high probative value
- mTBI pts always resolve
- Must evaluate validity – Money Matters
- The truth lies in the data, not subjective complaints

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Case Studies

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