Designated Doctor Case-Based Webinar Module 6

Non – Musculoskeletal

Maximum Medical Improvement and Impairment Rating (MMI & IR)

Central Nervous System (Ch4)

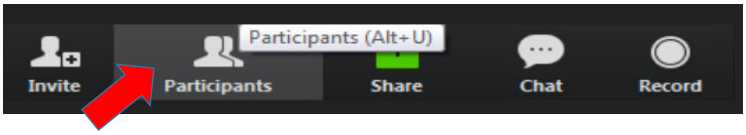
Mental and Behavioral (Ch14)

Disclaimer

The material presented in this workshop is made available by the Texas Department of Insurance - Division of Workers' Compensation (TDI-DWC) for educational purposes only. The material is not intended to represent the only method or procedure appropriate for the medical situations discussed. Rather, it is intended to present an approach, view, statement, or opinion of the faculty, which may be helpful to others who face similar situations.

Housekeeping

At the bottom of your screen, click to turn on the participant list:



Ensure your name (not phone # or initials) is shown on the Participant List for CME and attendance purposes. If not, do the following to rename:

Hover over your current sign in and two boxes appear

Click on the Rename box

Type in your first and last name

Make sure your name shows correctly in the Participant list.

Asking questions

Please mute your phone/VOIP audio connection

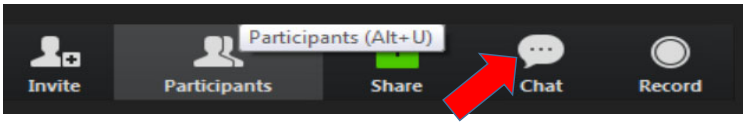
All attendees will be muted during the presentation and submit questions via Chat

Attendees may be unmuted at the request of the monitor or instructor for clarification or further discussion

Make sure your name shows correctly in the Participant list.

Asking questions

You will find the Chat feature to the right of the participants list.



As the instructor goes through the course they will ask for questions via chat at the end of a case, or after a concept has been explained.

You may type your questions into Chat. The Chat monitor may answer your question in Chat, or have the instructor answer the question verbally.

Non-Musculoskeletal MMI/IR

Cases
Traumatic Brain Injury (TBI)
Post Traumatic Stress Disorder (PTSD)

Pearls related to Chapter 4 and 14

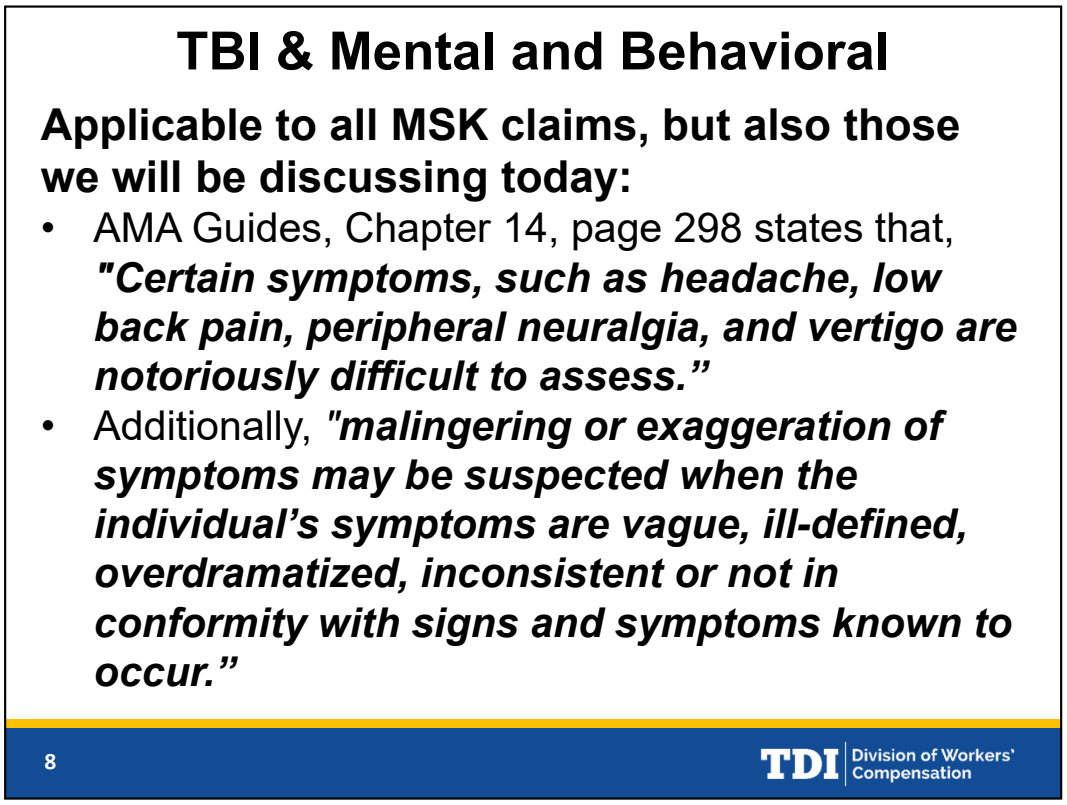
TBI & Mental and Behavioral

What makes these cases difficult is that there is a heavy emphasis on SYMPTOMS.

- Symptoms of concussion forms of TBI can overlap with symptoms present in the healthy population, those with other forms of trauma and those with mental and behavioral disorders. *

- Many post-traumatic claims of mental and behavioral dysfunction are based on *"no symptoms before DOI and now symptoms after DOI"* – even when there are clear indicators otherwise.

Additional evidence-based medicine is available in the TBI standalone Module.



The first statement takes into consideration just some of the examples.
There are many symptoms and complaints that could also be considered in this statement.

What does the second statement mean? There are many potential conscious (malingering) and subconscious (secondary gain) or
other motivators that can affect an injured employee's perception of what happened during the work-related event. The exaggeration or other psychological mechanisms at play are USUALLY not obvious to the IE, AND WE cannot know their intentions so DO NOT use inflammatory statements to describe.

There can misattribute symptoms experienced previously to the work event, as it is the most recent "event".
There can be the "good old days" bias for mental and behavioral or TBI related claims.
There can be individuals that somaticize or have frank Somatoform Symptom Disorder. - Misperception of normal bodily sensations as being a serious health consequence

TBI & Mental and Behavioral

What makes these cases difficult is that there is a heavy emphasis on SYMPTOMS.

- These cases require high clinical acumen.
- You do not have to be a TBI specialist or psychiatrist to know what to look for in a claimant's medical history or the record chronology – **AND be willing to look for and document.**
- **YOU MUST** have some basic knowledge of the evidence-based medicine related to these topics
- You may obtain additional information from Neuropsychologic assessment*

Be willing to look for and document – if its not in your report, you cannot draw appropriate conclusions.

You should NOT rely totally on a psychologist's or neuropsychologist's report as they are not trained in assessment of MMI and IR as per DWC standards. ALSO – did you provide them with the records and did they review? If they only based conclusions on an interview WITHOUT review of records, THEIR conclusions are likely faulty / invalid.

LW1

TBI & Mental and Behavioral

- Based on U.S. and global health data from the 2020s, not considering children / adolescent, the most common DSM-5 disorders are:
  - ✓Anxiety disorders
  - ✓Depressive disorders,
  - ✓Substance use disorders (alcohol and opioids most common)
- "Early data suggest that the population-level burden of depression has been exacerbated by the COVID-19 pandemic". [Goodwin et al 2022.]

These mental and behavioral disorders are common in the population presenting to **primary care physicians in the past**, with elevations of anxiety and depression in recent years after the Covid isolation years.

https://www.nimh.nih.gov/health/statistics/

Goodwin RD, Dierker LC, Wu M, Galea S, Hoven CW, Weinberger AH. **Trends in U.S. Depression Prevalence From 2015 to 2020: The Widening Treatment Gap.** Am J Prev Med. 2022 Nov;63(5):726-733. doi: 10.1016/j.amepre.2022.05.014. Epub 2022 Sep 19. PMID: 36272761; PMCID: PMC9483000.

Even if NOT formally diagnosed as a DSM-5 disorder, symptoms of depression and anxiety are exceedingly common in the population without injuries. Depression and anxiety PRECEDING the work event are not uncommonly the cause of the symptoms and failure to improve, rather than a specific work event.

More often the "work event" becomes an acceptable explanation for the claimant to the symptoms they have been having.

That is not to say the work-related injuries are not without their own financial and emotional stressors, but we must keep this information in mind.

Adams DB, Wasserburger LB. **Psychological Factors Affecting Soft Tissue Injury: Psychodynamics, Psychopathology and Impact Upon Recovery.** *In Soft Tissue Injury: Diagnosis & Treatment.* (Eds) Windsor RE, Lox D. Hanley & Belfus, Philadelphia, PA, 1997.

Slide 10

LW1 In the first speaker note sentence, what does “o=in the past” mean? I read it as zero equals in the past…?
Lisa Wharry, 2025-10-17T13:35:52.560

LW1 0 Fixed and added to the thrid sentence to clarify
Lori Wasserburger, 2025-10-17T18:52:32.021

LW1 1 Thanks!
Lisa Wharry, 2025-10-17T19:56:32.171

TBI & Mental and Behavioral

Major depression is one of the most common mental disorders in the United States. In 2020

- An estimated 21.0 million adults in the United States had at least one major depressive episode.
- 8.4% of all U.S. adults - adult females (10.5%) and adult males (6.2%).

[These statistics did not take the effects of Covid isolation and other factors into consideration.]

These next slides are older statistics that should be updated. But it gives a general prevalence prior to the past several years.

MD = NIH

GAD = Anxiety Disorders of America

ANY anxiety = NIH

TBI & Mental and Behavioral

Generalized Anxiety Disorder (GAD)

- Affects 6.8 million adults or 3.1% of the U.S. population (with only 43.2% are receiving treatment).
- Women are twice as likely to be affected as men.
- GAD often co-occurs with major depression.

An estimated 19.1% of U.S. adults had <u>any</u> anxiety disorder in the past year.

[These statistics did not take the effects of Covid isolation and other factors into consideration.]

MD = NIH

GAD = Anxiety Disorders of America

ANY anxiety = NIH

TBI & Mental and Behavioral

Somatoform disorders are a group of psychiatric disorders that result in unexplained physical symptoms.

- Prevalence rates for somatoform disorders in the general population range from 11 to 21% in younger, 10 to 20% in the middle-aged, and 1.5 to 13% in those > 65 years age groups.
- This class of disorders is characterologic. It is not a condition that develops as a result of a life event.

TBI & Mental and Behavioral

Somatoform disorders (continued)

- Rather, the life event is perceived and expressed differently than those without these disorders.
- Individuals that have real injuries can still have a somatoform disorder
- Those that do not meet the strict psychiatric diagnostic criteria (DSM-5) for a somatoform disorder, can be said to have "*somatic preoccupation".*

Somatic pre-occupation can affect the individuals' ability to benefit from treatment.

TBI & Mental and Behavioral

Somatoform disorders (continued)

"symptoms of somatoform disorders often lead to general health anxiety; frequent or recurrent and excessive preoccupation with unexplained physical symptoms; inaccurate or exaggerated beliefs about somatic symptoms; difficult encounters with the health care system; ...

Oyama O, Paltoo C, Greengold J. **Somatoform disorders.** Am Fam Physician. 2007 Nov 1;76(9):1333-8.

TBI & Mental and Behavioral

Somatoform disorders (continued)

*...**disproportionate disability;** displays of strong, often negative emotions toward the physician or office staff; unrealistic expectations; and, occasionally, resistance to or noncompliance with diagnostic or treatment efforts".*

Oyama O, Paltoo C, Greengold J. **Somatoform disorders.** Am Fam Physician. 2007 Nov 1;76(9):1333-8.

Oyama O, Paltoo C, Greengold J. **Somatoform disorders.** Am Fam Physician. 2007 Nov 1;76(9):1333-8.

TBI and Mental & Behavioral

In determining mental and behavioral disorders or traumatic brain injury, it is important to consider that depression and anxiety disorders and somatoform disorders are common in the general population.

A. True
B. False

Correct answer is TRUE

TBI and Mental & Behavioral

Be aware of **Functional Somatic Syndrome (FSS)**

- This term applied to several related syndromes characterized *"more symptoms, suffering, and disability than by consistently demonstrable tissue abnormality."*
- Individuals with FSS ***"have explicit and highly elaborated self-diagnoses, and their symptoms are often refractory to reassurance, explanation, and standard treatment of symptoms".***
- Higher-than-expected prevalence of psychiatric comorbidity.

Barsky AJ, Borus JF. **Functional somatic syndromes.** June 1999. Annals of Internal Medicine. 130(11):910-921.]

AJ Barsky AJ, Borus JF. **Functional somatic syndromes.** June 1999. Annals of Internal Medicine. 130(11):910-921. DOI:10.7326/0003-4819-130-11-199906010-00016

TBI and Mental & Behavioral

SYMPTOM MAGNIFICATION and Non-Organic signs can be caused by subconscious factors or conscious deception.

- Be aware of these psychological terms:
  - Secondary Gain
  - Tertiary Gain
  - Malingering
- You cannot tell from the behavior whether it is subconscious or conscious deception.

TBI and Mental & Behavioral

Secondary Gain (subconscious)

- *"An interpersonal or social advantage attained by the patient as a consequence of the illness".* [Freud]
- *"Acceptable or legitimate interpersonal advantages that result when one has the symptom of a physical disease."* [Barsky]
  - The advantage may be increased attention, disability benefits, or release from unpleasant responsibilities, obtained as a result of having an "illness" / injury.*
- **Such gains are <u>secondary</u> in that they are derived from others' reactions to the behavior instead of from causal factors.** [Fishbain]

*Reinforcers for pain behavior can include:

1. Rest
2. Relief from pain
3. Change in mood after medication
4. Avoiding responsibility
5. Money (compensation)
6. Avoiding sexual demands
7. Attention and concern of others, e.g., spouse
8. Avoiding situations that expose inadequacies
9. PRN pain medication schedules 10. Exercise to tolerance levels
11. Approval from doctor
12. Pending litigation
13. Hostility toward or dependency on other family members
14. Prestige at being the sick family member
15. **Little job satisfaction before injury**
16. **Stressful job before injury**
17. **Poor relationship with employer before injury.**

FROM: David A. Fishbain. Secondary gain concept: Definition problems and its abuse in medical practice, APS Journal, Volume 3, Issue 4,

1994, Pages 264-273, ISSN 1058-9139, https://doi.org/10.1016/S1058-9139(05)80274-8.

TBI and Mental & Behavioral

Tertiary Gain

- Tertiary gain was first described and defined by Dansak.
- May be conscious or subconscious.
- Gains sought or attained from a patient's illness by someone other than the patient; a family member, treating doctors, claimant attorneys
  - Family enjoys the changes in roles
  - Family sympathy from social network
  - Family access to medication
  - Financial gain for the family
  - Doctor (and at times attorney) can be the "hero"
- Dansak D: On the tertiary gain of illness. Compr Psychiatry 14:523-534, 1973 12. Eisendrath S J: Factitious illness

Dansak D: On the tertiary gain of illness. Compr Psychiatry 14:523-534, 1973 12. Eisendrath S J: Factitious illness

TBI and Mental & Behavioral

Malingering (conscious deception):

- Malingering is not considered a psychiatric diagnosis, but the DSM-5 manual does state it is a condition that may be a focus of clinical attention.
- It is the **intentional production of false or grossly exaggerated physical or psychological problems.**
- Motivation for malingering is usually external
  - Avoiding military duty, prison or work,
  - Obtaining financial compensation,
  - Evading criminal prosecution
  - Obtaining drugs

TBI and Mental & Behavioral

Individuals that demonstrate symptom magnification and non-organic signs are all malingerers.

A. True
B. False

Correct answer is FALSE

TBI and Mental & Behavioral

Individuals that demonstrate symptoms magnification and non-organic signs are less likely to respond to appropriate treatment the same as those without such signs.

A. True
B. False

Correct answer is TRUE

TBI and Mental & Behavioral

Considering these facts, critical thinking is required to determine work-relatedness of cognitive or psychological symptoms.

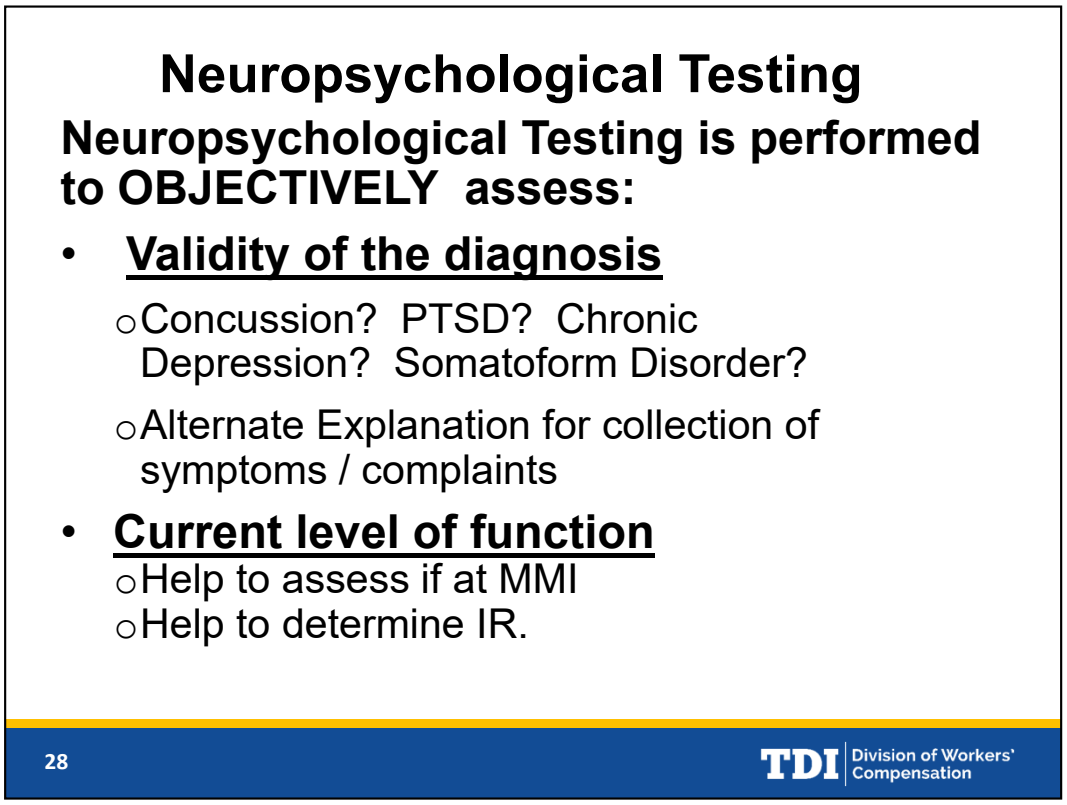
- Are they part of the compensable injury?
- Are there alternate explanations of pre-existing conditions that are resulting in failure to improve functionally?
- If these were caused by a work-related event, do these symptoms rise to a specific diagnosis, and are expected to be permanent and result in impairment?

Neuropsychological Testing

- **It is not enough to rely upon subjective paper/pen tests. Examples:**
  - Mini-Mental Status Evaluation (MMSE)
  - Montreal Cognitive Assessment (MoCA)
  - Beck Depression Inventory (BDI)
  - Beck Anxiety Index (BAI)
  - Generalized Anxiety Disorder 7-item (GAD-7)
  - Patient Health Questionnaire 9 (PHQ-9)
  - PCL – 5 – for PTSD
- **These are useful <u>screening tools</u> for clinicians, but do not have any validity criteria for the purpose of litigated claims.**

Neuropsychological Testing

- AMA Guides in section 4.1a and 4.1c, state, the GOAL of testing is to ***"objectively assess any change in / loss of functioning due to brain injury in order to have an accurate rating"***
- Chapter 14 also notes, *"**neuropsychological assessment . . . may be useful in determining deficiencies in brain functioning, particularly in individuals with subtle signs such as those that may be seen in traumatic brain injuries."***



The purpose of testing:

OBJECTIFY whether there are residuals of TBI or there are ALTERNATE EXPLANATIONS

Help to assess if at MMI

Help to determine IR.

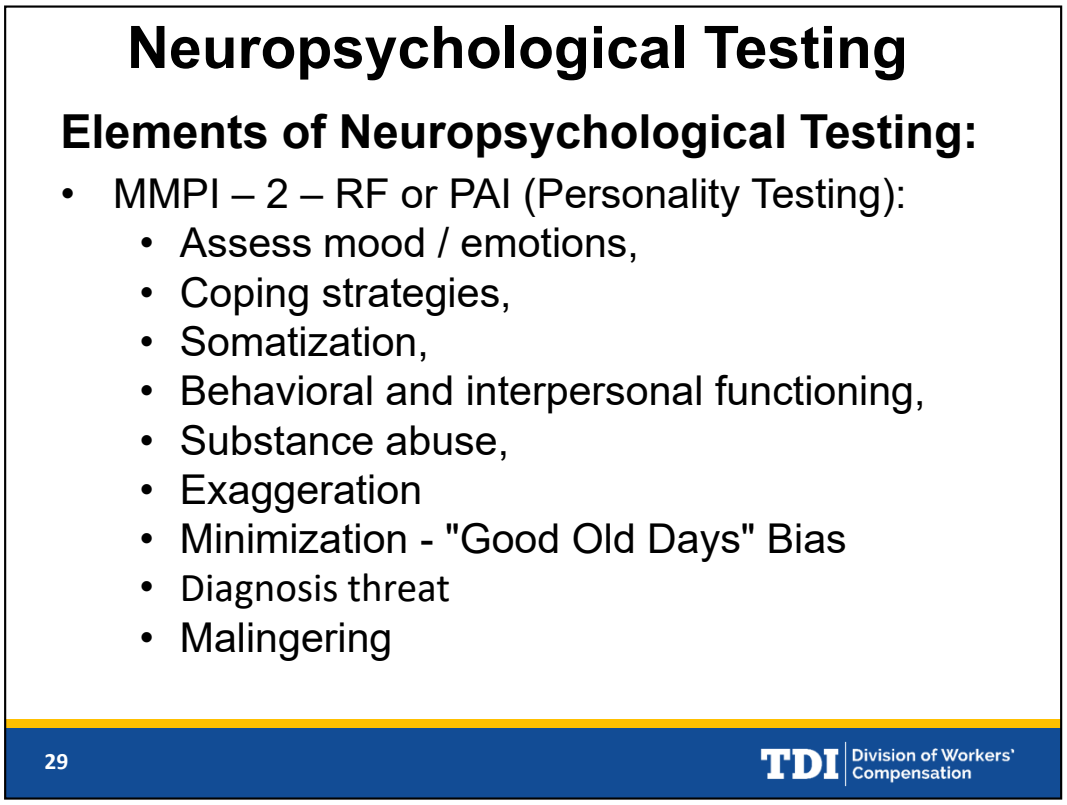
CANNOT JUST "eyeball" the IR.

IMPERATIVE to be aware of the EBM. There will be a MANDATORY TBI module.

The PDF from this module will be invaluable for your evaluations in the future.

Remember that necessary additional testing must be ordered by you, and be aware that you or your scheduling company

should NOT order additional testing when it is not necessary.



Minimization - "Good Old Days" Bias = refers to the tendency to view oneself as healthier in the past and to underestimate past problems.

Diagnosis threat is a psychosocial factor proposed to contribute to poor cognitive outcomes following mild traumatic brain injury (mTBI). Prior research suggests that when TBI participants are informed they may experience cognitive difficulties, they perform worse on neuropsychological tests compared to MHI participants who are uninformed.

‘‘Diagnosis threat’’ may contribute to the prevalence and persistence of cognitive complaints made by MHI individuals found in the literature, but may not have as strong of an effect on neuropsychological measures.

Neuropsychological Testing

Minnesota Multifactorial Personality Inventory
(MMPI – 2 – RF or the newest MMPI – 3)

- The X-axis has 14 scales.
  - The first four **content scales** judge the validity of the test attempt
  - The 10 remaining scales known as **clinical scales** are designed to measure for the presence of psychiatric syndromes
- The Y-axis statistically standardizes the grading received on each scale in a range of T-scores from 0 to 120.
  - A T-score greater than 70 indicates psychopathy in that category.

Floyd AE, Gupta V. **Minnesota Multiphasic Personality Inventory.** [Updated 2023 Apr 24]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2023 Jan-. Available from: https://www.ncbi.nlm.nih.gov/books/NBK557525/

Neuropsychological Testing

The Personality Assessment Inventory (PAI)

- A multiscale, self-administered questionnaire designed to provide a comprehensive assessment of personality and psychopathology

McCredie, M. N., Hopwood, C. J., & Morey, L. C. (2021). **Personality Assessment Inventory (PAI) for assessing disordered thought and perception.** In I. B. Weiner & J. H. Kleiger (Eds.), *Psychological assessment of disordered thinking and perception* (pp. 79–98). American Psychological Association. https://doi.org/10.1037/0000245-006

Neuropsychological Testing

Elements of Neuropsychological Testing (cont):

- Specific tests with embedded validity criteria.
  - Victoria Symptom Validity Test (VSVT)
  - Dot Counting Test (DCT)
  - Portland Digit Recognition Test (PDRT)
  - Rey 15 Item Test
  - Test of Memory Malingering (TOMM)
  - Structured Inventory of Malingered Symptomatology
  - Word Memory Test (WMT)

Need several of the specific tests to assess validity of effort. Typical to have 4.

Dependent on results this can affect the ability of the neuropsychologist to draw ANY conclusions (no validity)

or draw conclusions that are valid but do not support the claimed diagnosis.

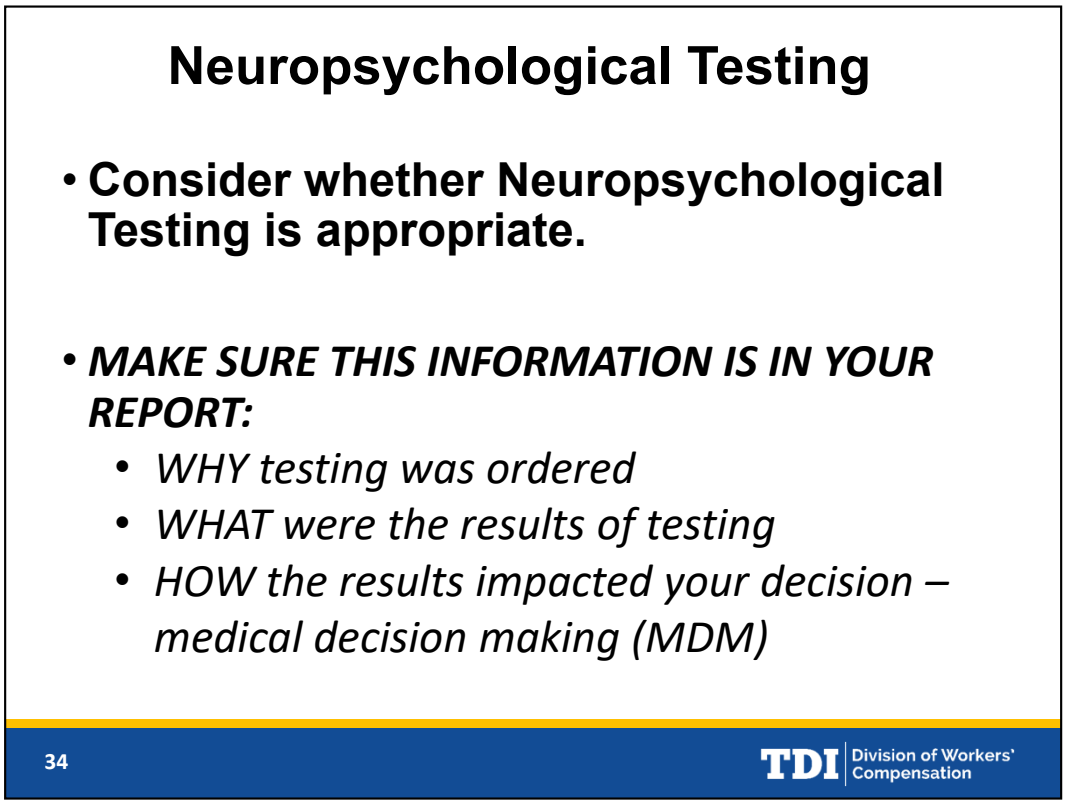
Neuropsychological Testing

Sweet JJ, Heilbronner RL, Morgan JE, Larrabee GJ, Rohling ML, Boone KB, Kirkwood MW, Schroeder RW, Suhr JA & Conference Participants (2021).

American Academy of Clinical Neuropsychology (AACN) 2021 consensus statement on validity assessment:

Update of the 2009 AACN consensus conference statement on neuropsychological assessment of effort, response bias, and malingering.

The Clinical Neuropsychologist, 2021, Vol 35, No 6, 1053-1106.



When is it appropriate? Almost ALWAYS.

As a DD that refers for these tests, you MUST be aware of basic elements of testing and the EBM.

NOTE: DO NOT abdicate your decision as to MMI and the IR to a paraprofessional. They are NOT trained in the concept of MMI and IR

Neuropsychological Testing

When results are obtained:

- YOU must still be aware of how to interpret and apply the guidelines for MMI and IR
- Neuropsychologists that are not MDs / DOs are not trained and certified in assessing MMI / IR

It is not uncommon for neuropsychologists to cite appropriate EBM regarding mTBI,

but then ignore that EBM.

Beware of neuropsychologists that are acting as ADVOCATES rather than independent forensic experts.

Neuropsychological Testing

When results are obtained

- **Your opinion must be based on:**
  - Evidence in the records
  - Certifying Exam
  - Testing Results
  - Evidence Based Medicine #

Neuropsychological Testing

For a case where you order neuropsychologic testing, it is sufficient to attach a copy of the report and document the MMI date and IR assigned by the neuropsychologist.

A. True

B. False

Correct answer FALSE.

Designated Doctor Neuropsychological Assessment

Elements of Medical History for TBI / Mental & Behavioral Disorder:

- **Expanded Medical History**
  - BMI and historical BMI
  - Any other medical issues that could produce symptoms that can overlap with TBI symptoms or with psychological disorders
- **Complete medication list for WC AND non-WC**

The reason for complete medication list for WC AND non-WC medications is so it can alert you to medical issues not listed by the claimant

that could be an alternate explanation for their symptoms or findings.

Make sure you scour the medical records for medications and medical history.

Neuropsychological Testing

Elements of Medical History for TBI / Mental & Behavioral Disorder:

- **Psychological History:**
  - Prior psychological Treatment (counseling, meds, hospitalizations)
  - History of abuse (physical, mental, or sexual)
  - Social Habits (Smoking, Alcohol – quantity, frequency and length of time
  - Recreational Drugs (THC or other street drugs)

These items are not usually asked as they are "uncomfortable".

While many claimants may not volunteer this information, non-confrontative conversations may reveal this.

Usually they will NOT disclose on a written history.

Case 1 - *Traumatic Brain Injury*

History of Injury

Injured employee fell 20 feet from scaffolding
Injuries sustained were:

- Traumatic brain injury with GCS 7/15
- Initial CT imaging of the head demonstrated
  - Small left temporal subdural hematoma with acute depressed (4 mm) skull fracture
  - Right frontal / temporal lobe hemorrhagic contusion (contra coup lesion)
  - No diffuse swelling or midline shift

Case 1 - *Traumatic Brain Injury*

History of Injury

- Initial GCS was 7/15
- Intubated and treated in ICU for 14 days
- Increased intracranial pressure (ICP) treated with mannitol.
- Craniotomy to elevate skull fracture.
- After 36 hours of LOC, was confused and intermittently combative, so he remained sedated
- On prophylactic Keppra x 14 days
- Initiated PT, OT, and Speech / Language Therapy as level of responsiveness improved

Case 1 - *Traumatic Brain Injury*

History of Injury

- Transitioned from Neurosurgery ICU to the floor, inpatient rehabilitation for 4 weeks, then out-patient cognitive behavioral therapy for 6 months – completed 9 months post injury

- Over the year of formal treatment, confusion / orientation, impulsivity and safety awareness improved, but with some residual cognitive difficulties and mood lability.

Case 1 - *Traumatic Brain Injury*

History of Injury

- At ~ 6 months after the DOI, the claimant had a witnessed Grand Mal seizure while in therapy. He subsequently suffered intermittent minor focal motor seizures in the right upper extremity
- EEG confirmed abnormal seizure activity in the left temporal lobe
- Neurologist started the claimant on different anti-seizure medications, modifying over the following six to eight months.

Case 1 - *Traumatic Brain Injury*

History of Injury

- There were no recurrences of Grand Mal seizures
- After titration of meds, there were intermittent, brief, mild focal motor seizures.
- At 12 months post injury, his PM&R doctor switched to every 6 month follow up.
- At 18 months post injury, the neurologist switched to every 6 month follow up.

Case 1 - *Traumatic Brain Injury*

DD Evaluation – 18 months post-DOI

- The IE has returned to work with some changes in duties; keeps a notebook and uses his phone as a memory aid.
- He reports he functions at work, as the things he does are based on prior / old memory
- He has more difficulties in new situations or social situations, and those can make him anxious.
- He reported to the DD that by returning to work and figuring out how to compensate, he believes he has improved; he was promoted a few weeks prior to the exam.

Case 1 - *Traumatic Brain Injury*

DD Evaluation - EXAM

- Alert and oriented x 4
- Mood / affect within normal limits, but appears anxious
- Speech is without dysarthria.
- Minimal difficulty following multi-step commands
- Mild difficulty naming objects and remembering spans of numbers.
- No other obvious receptive or expressive aphasia

NOTE that your physical exam should covers ALL areas/functions of the brain that could accrue impairment.

Case 1 - *Traumatic Brain Injury*

DD Evaluation - EXAM

- Cranial nerve function intact
- Gait and Cerebellar Exam remarkably normal
- No sensory / motor deficits
- No spasticity, hyperreflexia, clonus, and negative Hoffman's / Babinski test
- No evidence of a movement disorder

Case 1 - *Traumatic Brain Injury*

DD Evaluation

- **DD considered the medical evidence in the records, the certifying exam and the EBM.**
- **Ordered Neuropsychological evaluation**
  - Results were a valid representation with good effort, consistent with imaging and the records.
  - Results consistent with residual **mild cognitive deficit** and **minimal anxiety in social situations.**

Case 1 - *Traumatic Brain Injury*

DD Evaluation - EXAM

Ordered MRI with contrast including IAC

- Imaging was compared to the CT of the head at acute care hospital
- There were no acute / subacute findings
- There was encephalomalacia seen at the inferior lateral left temporal area
- The skull fracture was healed and aligned
- No residual abnormalities in the brain on the right.

So, there is a structural reason for the persistent TBI criteria.
Be familiar with what the different areas of the brain control and WHAT you might anticipate to be present on testing.
Also consistent with the left temporal changes

Case 1 -
Traumatic Brain Injury

What should the DD consider as the compensable injury?

Case 1 -
Traumatic Brain Injury

Let's look at the facts of the case and the evidenced- based medicine

Traumatic Brain Injury

Traumatic Brain Injury (TBI):

- The current, specific terminology for a head injury event that results in dysfunction of the brain.
- **Traumatic brain injuries can be caused by:**
  - Direct trauma
  - An acceleration / deceleration (A/D) force to the head

Not EVERY DIRECT TRAUMA or A/D EVENT CAUSES a TBI!

This is the layperson way to think of a TBI.

The specific definition is on the following slide.

Think of TBIs as resulting at a minimum a microscopic neural contusion with potential axonal injury, which subsequently results in biochemical, metabolic, and cellular changes. In more significant TBIs, there can be macroscopic changes to the brain on neural imaging.

Traumatic Brain Injury

The American Congress of Rehabilitation Medicine (ACRM) provided a **Position Statement for Traumatic Brain Injury** (Menon et al 2010).

- This is defined as "*an alteration of brain function or other evidence of brain pathology caused by an external force"*.
- There are specific associated clinical findings of alteration of brain function.

Menon DK, Schwab K, Wright DW, Maas AI; Demographics and Clinical Assessment Working Group of the International and Interagency Initiative toward Common Data Elements for Research on Traumatic Brain Injury and Psychological Health. Position statement: definition of traumatic brain injury. Arch Phys Med Rehabil. 2010 Nov;91(11):1637-40.

While this was over a decade ago, this position statement provides a common-sense approach to understanding TBI.

Traumatic Brain Injury

CLINICAL CRITERIA for TBI

Criteria	MILD	MODERATE	SEVERE
Structural imaging	Definition Dependent **	Normal or abnormal	Normal or abnormal
Loss of consciousness (LOC)	0-30 minutes	> 30 min and < 24 hrs	> 24hrs
Alteration of consciousness (AOC)**	A moment up to 24 hours **	> 24 hours. Severity based on other criteria	
Post Traumatic amnesia (PTA)	0-1 day	> 1 and < 7 days	> 7 days
GCS (BEST score in first 24 hours)	13-15	9-12	< 9

** and ** on next slide*

This is a BASIC methodology to assist in categorizing a TBI. VERY IMPORTANT SLIDE!

The next slides will offer MORE detail as to how to diagnose / classify a MILD TBI

When you are making decisions regarding MMI and IR, keep these criteria and the EBM presented in the next slides in mind.

~ 80 % of TBIs are the mild category. Over 90 % of MILD TBI will reach MMI early and have 0 %.

In SOME unusual circumstances, they may have some minor residual cognitive or emotional residuals.

Traumatic Brain Injury

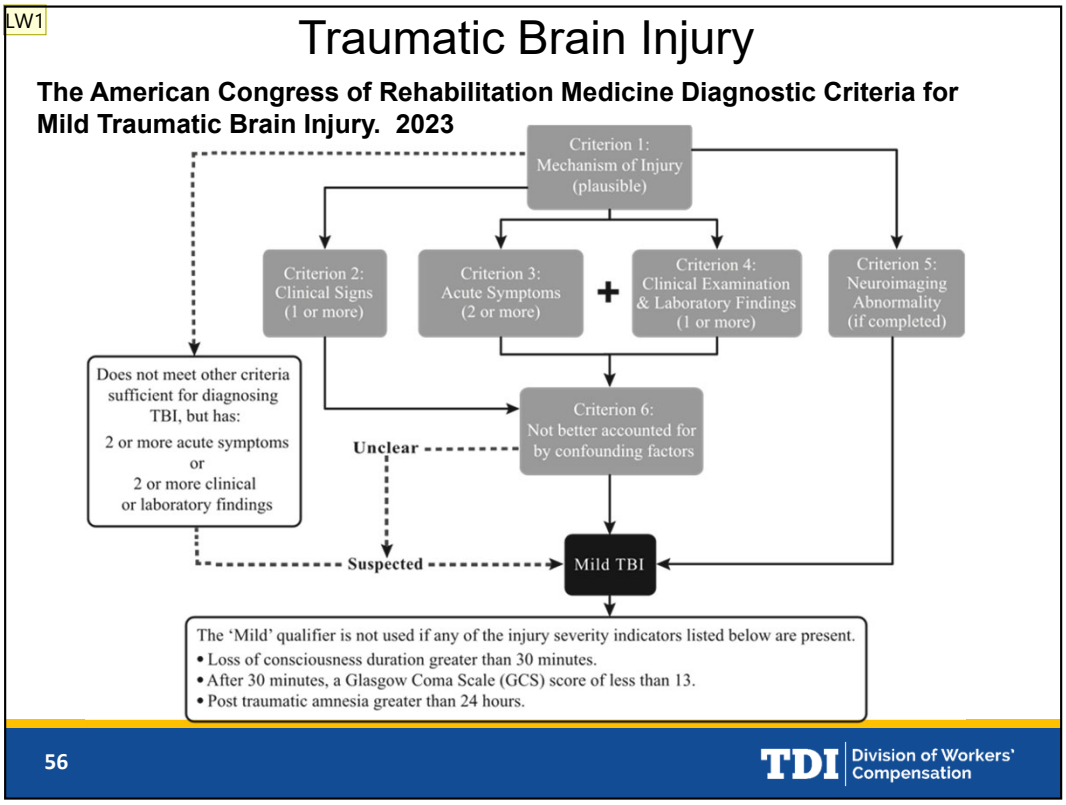
Updated in 2023!

Silverberg ND, Iverson GL. ACRM Brain Injury Special Interest Group Mild TBI Task Force members: Zafonte R, Zasler ND, Zemek R, et al. **The American Congress of Rehabilitation Medicine Diagnostic Criteria for Mild Traumatic Brain Injury.** *Archives of Physical Medicine and Rehabilitation.* Volume 104 Issue 8 Pages 1343-1355 (August 2023) DOI: 10.1016/j.apmr.2023.03.036

This classification system to diagnose a MILD TBI is a bit more involved.

So you can use the TABLE to Guide a BASIC understanding of the criteria for MILD TBI and this Diagnostic Criteria Guideline
should be able to assist you further in diagnosing Mild TBI.

The Table also summarizes what criteria will result in the classification of a MODERATE TO SEVERE TBI.

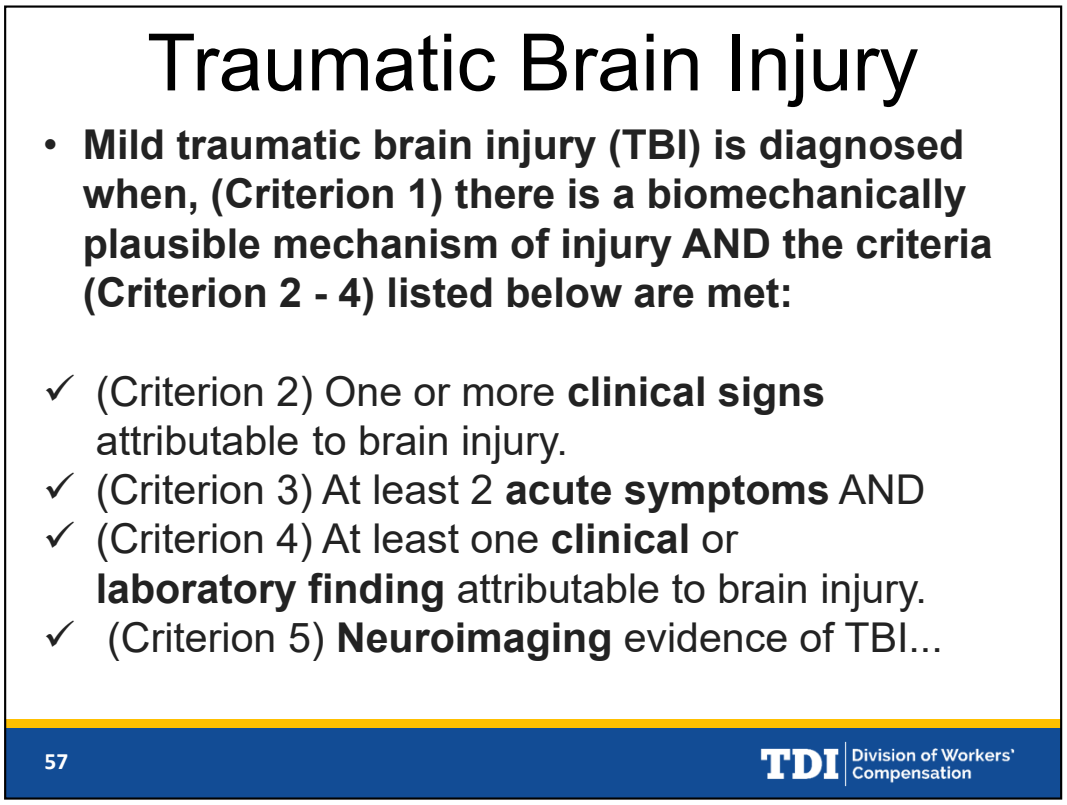


Silverberg ND and Iverson GL continued
This slide is a NICE FLOW , but difficult to see the details

IMPORTNT; we start with the correct / plausible mechanism and then look for appropriate SYMPTOMS, CLINICAL FINDINGS and neuroimaging.

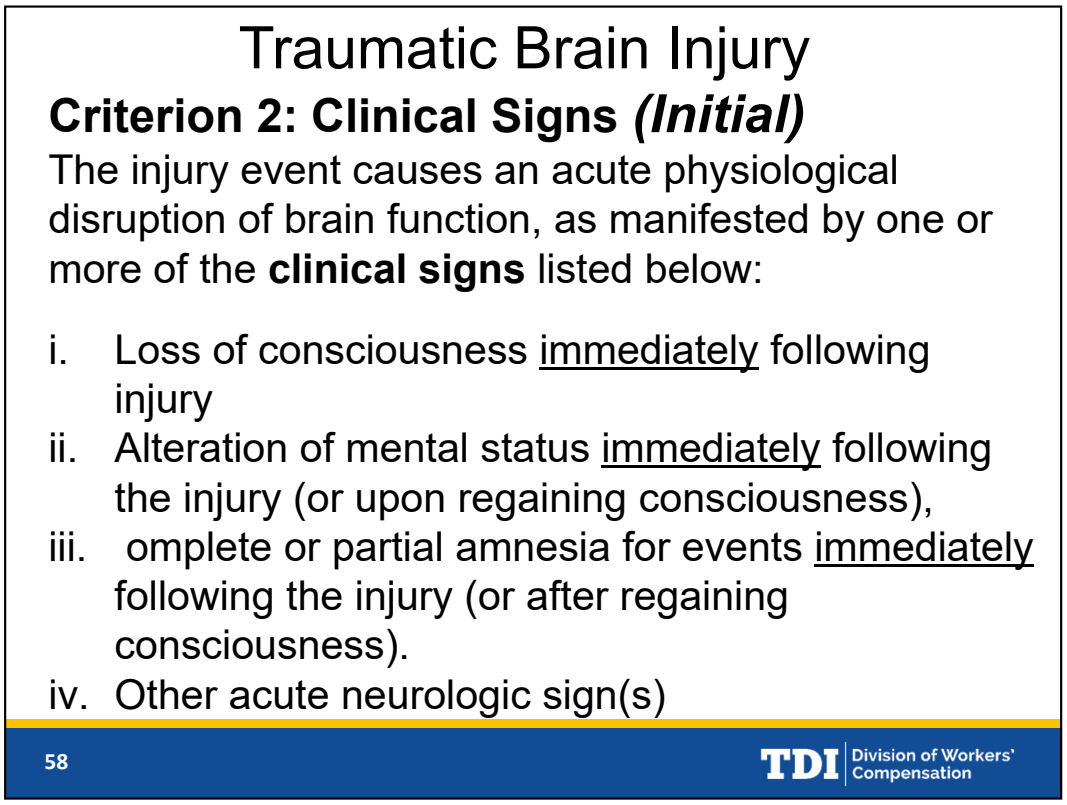
Slide 56

LW1 Worked on this and ALL following related slides.
Lori Wasserburger, 2025-10-17T02:30:13.225



Silverberg ND and Iverson GL continued

If there are NEUROIMAGING findings, it is automatically pushed to at LEAST Mild TBI.



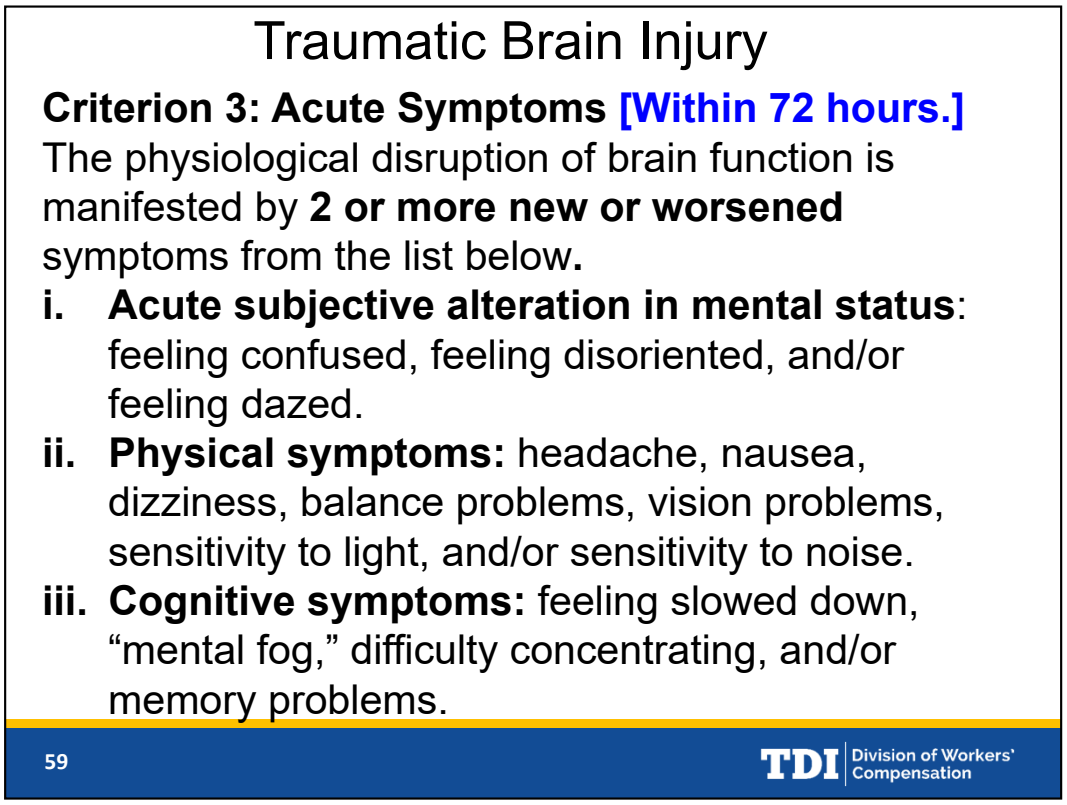
Silverberg ND and Iverson GL continued

ii. evidenced by reduced responsiveness or inappropriate responses to external stimuli; slowness to respond to questions or instructions;
agitated behavior; inability to follow two-part commands; or disorientation to time, place, or situation.

iii. If post-traumatic amnesia cannot be reliably assessed (eg, due to polytrauma or sedating analgesics), retrograde amnesia
(ie, a gap in memory for events immediately preceding the injury) can be used as a replacement for this criterion.

Iv.. (eg, observed motor incoordination upon standing, seizure, or tonic posturing immediately following injury).

Notes: Criterion 2 can be met by direct observation (in person or video review), collateral (witness) report, review of acute care records,
or when none of these are available, the person's recount of the injury event.



Silverberg ND and Iverson GL continued

Criterion 3: Acute Symptoms…

Traumatic Brain Injury

Criterion 3: Acute Symptoms [Within 72 hours.]

iv. **Emotional symptoms:** uncharacteristic emotional lability and/or irritability.

- The symptoms may be from **one or more** categories *(but experiencing 2 symptoms within a single category is sufficient).*
- Other symptoms may be present, but they should not be counted toward Criterion 3.
- **The onset of acute subjective alteration in mental status occurs immediately following the impact or after regaining consciousness.**

Silverberg ND and Iverson GL continued

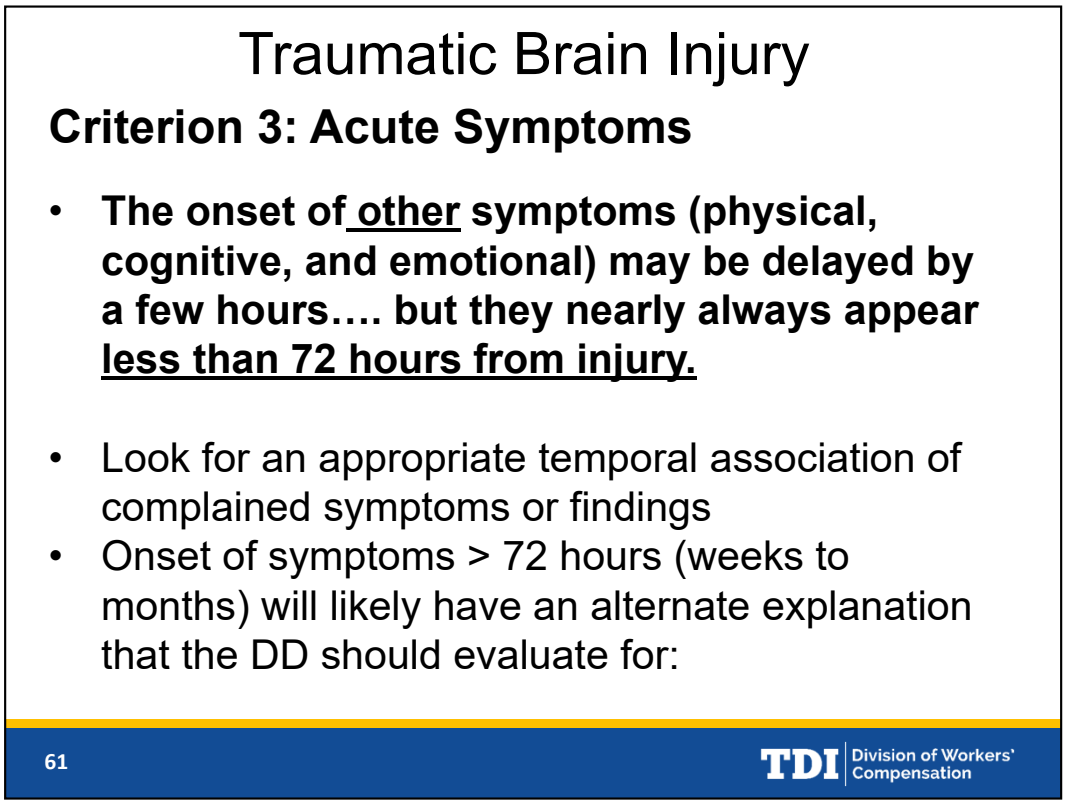
Notes: Criterion 3 can be met by

(1) review of acute care documentation of the injured person's acute symptoms,

(2) interviewing the injured person about the first few days following injury;

(3) having the injured person complete a self-report rating scale documenting symptoms during the first few days following injury; or

As DD's, we do NOT have this luxury, so a forensic evaluation of the records is necessary.



Silverberg ND and Iverson GL continued

Notes: Criterion 3 can be met by

(1) review of acute care documentation of the injured person's acute symptoms,

(2) interviewing the injured person about the first few days following injury;

(3) having the injured person complete a self-report rating scale documenting symptoms during the first few days following injury; or

As DD's, we do NOT have this luxury, so a forensic evaluation of the records is necessary.

Traumatic Brain Injury

Onset of <u>other</u> symptoms <u>GREATER than 72 hours from injury.</u>

- **Alternate explanations?**
- Medical conditions
  - ✓ Likely pre-existing mental & behavioral disorders,
  - ✓ OSA
  - ✓ Obesity related medical conditions,
  - Undiagnosed medical conditions inferred from the complaints?
- Non-Injury related factors?
  - ✓ Secondary or Tertiary Gain

Silverberg ND and Iverson GL continued

Traumatic Brain Injury

Neuroimaging Qualifier (Criterion 5)**:**

- If neuroimaging is abnormal the qualifier mild TBI *'with neuroimaging evidence of structural intracranial injury'* may be used.
- When neuroimaging is completed and found to be normal, the qualifier mild TBI '*without neuroimaging evidence of structural intracranial injury'* may be used.

CONCUSSION: The diagnostic label "concussion" may be used *interchangeably* with "mild TBI" when neuroimaging is normal or not clinically indicated.

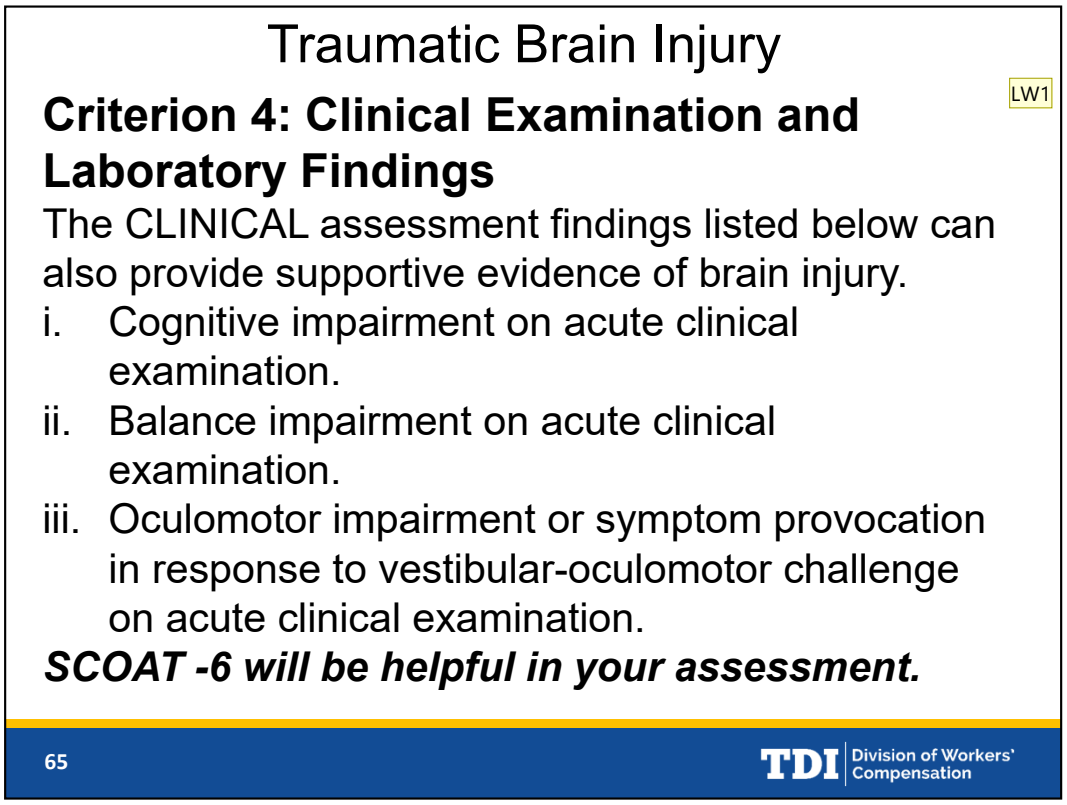
Silverberg ND and Iverson GL continued

Traumatic Brain Injury

MILD Qualifier:

- The 'mild' qualifier is NOT used if ANY of the injury severity indicators listed below are present.
  - i. Loss of consciousness duration greater than 30 minutes.
  - ii. After 30 minutes, a Glasgow Coma Scale (GCS) of less than 13.
  - iii. Post-traumatic amnesia greater than 24 hours.
- ***This is very similar to the Table on Slide 54***
- **Instead, traumatic brain injury (TBI) is diagnosed (without the 'mild' qualifier).**

Silverberg ND and Iverson GL continued



Silverberg ND and Iverson GL continued

These would be the OBJECTIVE clinical findings demonstrable AFTER the initial LOC or period of confusion as evidenced by an exam of the individual within the first 24 to no later than 72 hours after the trauma. USE the SCOAT-6.

Notes: Clinical and laboratory tests that meet standards of reliability and diagnostic accuracy should be considered for Criterion 4.

- Impairment in Criterion 4 i-iii is defined as a clinically meaningful discrepancy between post-injury test performance and age-appropriate normative reference data, or where available, pre-injury test performance.
- The diagnostic sensitivity of most clinical and laboratory tests decreases over the first 72 hours following injury and the rate of sensitivity decline differs between specific tests.

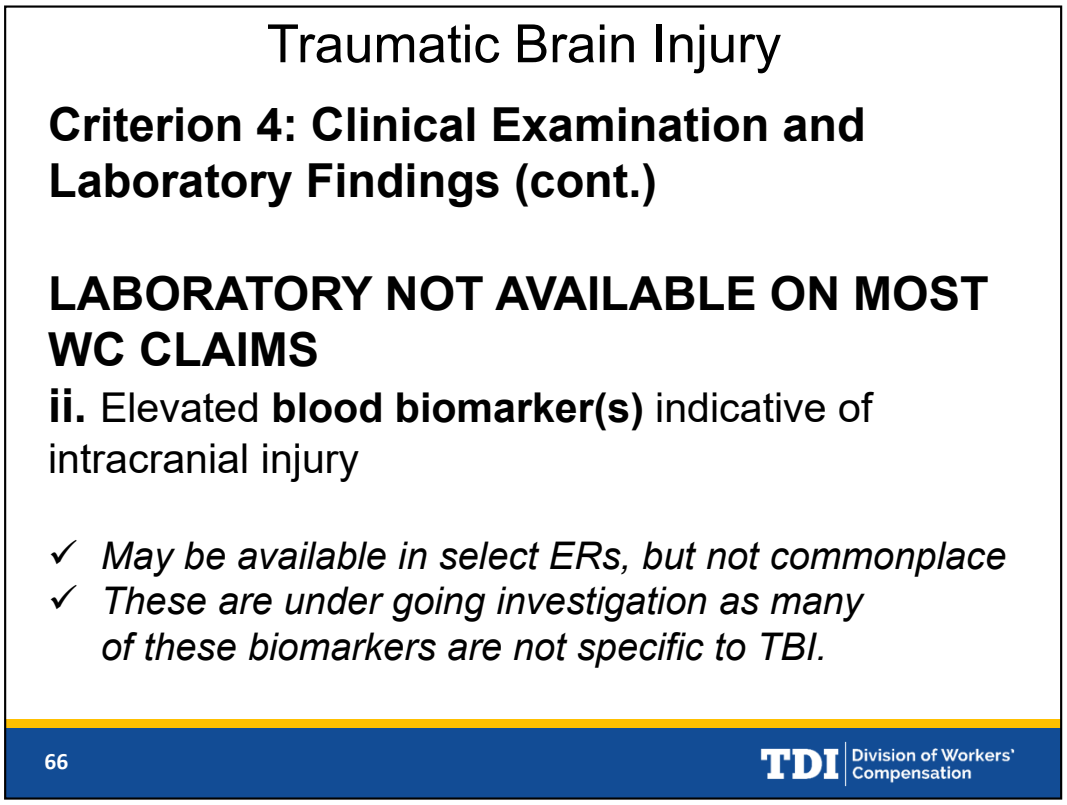
- Patricios JS, Davis GA, Ahmed OH, Blauwet C, Schneider GM, Purcell LK, Echemendia RJ, Fremont P, Fuller GW, Herring SA, Harmon KG, Loosemore M, Makdissi M, O'Halloran P, Putukian M, Turner M, Webborn N, Yeates KO, van Ierssel J, Schneider KJ. **Introducing the Sport Concussion Office Assessment Tool 6 (SCOAT6).** Br J Sports Med. 2023 Jun;57(11):648-650. doi: 10.1136/bjsports-2023-106860.

Erratum in: Br J Sports Med. 2023 Nov;57(21):e4. doi: 10.1136/bjsports-2023-106860corr1. PMID: 37316211.

Slide 65

LW1 TI belive HIS HAS ALREADY BEEN POSTED, but changed some of the wording on this and the next slide. THE CLINICAL FINDINGS are the most diagnostic as it is the LAB that is not available on most WC claims.
Lori Wasserburger, 2025-10-19T21:19:27.889

LW1 0 ADDED SCOAT -6 reference
Lori Wasserburger, 2025-10-19T21:23:25.788



Silverberg ND and Iverson GL continued

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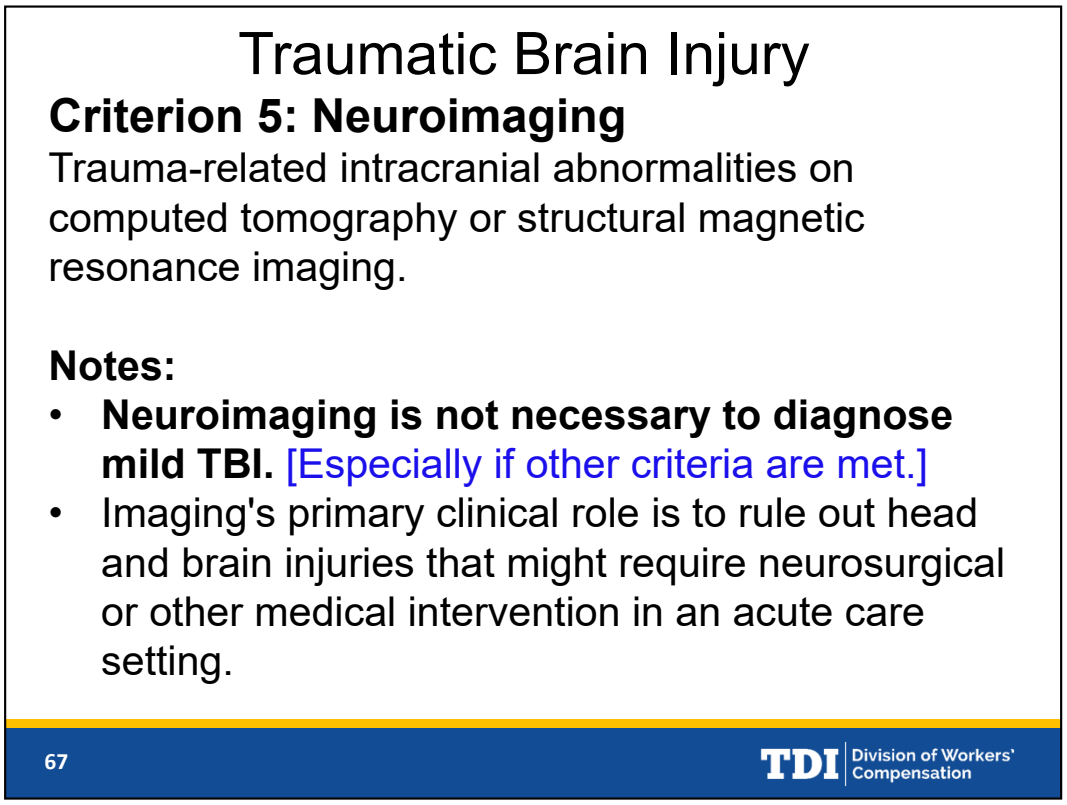
- The diagnostic sensitivity of most clinical and laboratory tests decreases over the first 72 hours following injury and the rate of sensitivity decline differs between specific tests.



Silverberg ND and Iverson GL continued

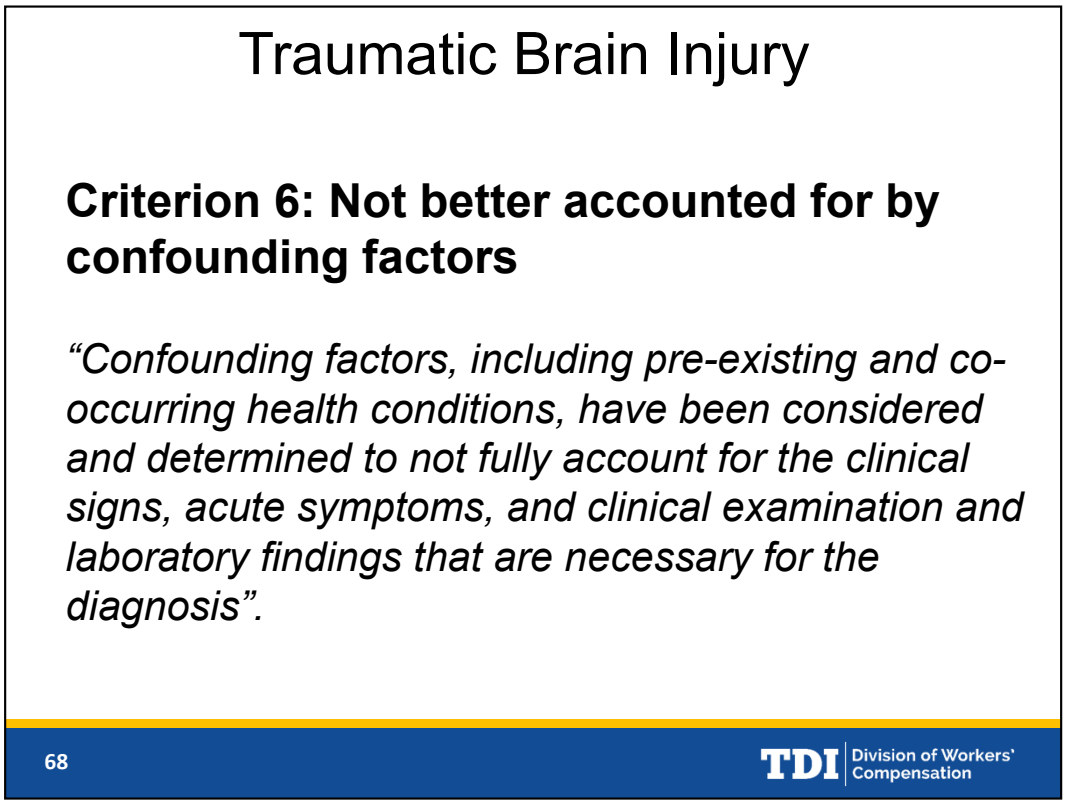
Notes:

A clinical **sign** only qualifies for Criterion 2 when it is not better accounted for by acute musculoskeletal pain, psychological trauma, alcohol or substance intoxication, pulmonary or circulatory disruption, syncope prior to fall, or other confounding factors.

Symptoms should only be counted toward Criterion 3 when they are not better accounted for by drug, alcohol, or medication use; co-occurring physical injuries (eg, musculoskeletal injury involving the neck or peripheral vestibular dysfunction) or psychological conditions (eg, an acute stress reaction to trauma); pre-existing health conditions; or symptom exaggeration.

Criterion 4 findings must not be better accounted for by drug, alcohol, or medication use; co-occurring physical injuries or psychological conditions; pre-existing health conditions; or factors influencing the validity of the symptom reporting or test results.

General Notes: Consideration should be given to cultural and linguistic differences in symptom reporting and test performance.



Silverberg ND and Iverson GL continued

Notes:

THIS LAST POINT IS VERY IMPORTANT!

A clinical **sign** only qualifies for Criterion 2 when it is not better accounted for by acute musculoskeletal pain, psychological trauma, alcohol or substance intoxication, pulmonary or circulatory disruption, syncope prior to fall, or other confounding factors.

Symptoms should only be counted toward Criterion 3 when they are not better accounted for by drug, alcohol, or medication use; co-occurring physical injuries (eg, musculoskeletal injury involving the neck or peripheral vestibular dysfunction) or psychological conditions (eg, an acute stress reaction to trauma); pre-existing health conditions; or symptom exaggeration.

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General Notes: Consideration should be given to cultural and linguistic differences in symptom reporting and test performance.

Traumatic Brain Injury

- There is a new publication in 2025 related to the ACRM diagnostic criteria in for mild traumatic brain injury (mTBI) 2023 which discusses some medical-legal issues and implications relating to the use of the criteria. The criteria were
  - ✓ Designed to be used across clinical settings.
  - ✓ Can be applied weeks, months, or years after an injury through a clinical interview and review of records.
  - ✓ IF the "suspected" mTBI classification is used, this is not meant to convey a level of diagnostic certainty, from a medical-legal perspective.

Iverson GL, Dams-O'Connor K, Panenka WJ, Stephens JA, Lockman SD, Lawati ZA, Lequerica AH, McPherson JI, Kamins J, Silverberg ND. New Diagnostic Criteria for Mild Traumatic Brain Injury: Medical-Legal Considerations. Arch Phys Med Rehabil. 2025 Oct;106(10):1615-1619. doi: 10.1016/j.apmr.2025.06.015. Epub 2025 Jul 5. PMID: 40623617.

Traumatic Brain Injury

- There is a new publication in 2025 related to the ACRM diagnostic criteria in for mild traumatic brain injury (mTBI) 2023
  - ✓ "The diagnostic process could be influenced by subjectivity or biases on the part of the person or the examiner"
  - ✓ **The new criteria are diagnostic, not prognostic**. They are designed to determine whether a person sustained an mTBI, but they are not designed to determine if a person's health problems months or years after an injury are related to that injury.

Iverson GL, Dams-O'Connor K, Panenka WJ, Stephens JA, Lockman SD, Lawati ZA, Lequerica AH, McPherson JI, Kamins J, Silverberg ND. New Diagnostic Criteria for Mild Traumatic Brain Injury: Medical-Legal Considerations. Arch Phys Med Rehabil. 2025 Oct;106(10):1615-1619. doi: 10.1016/j.apmr.2025.06.015. Epub 2025 Jul 5. PMID: 40623617.

What the last bullet point means is that EVEN IF a mild TBI diagnosis is determined, this CANNOT be used to determine an IR. KNOW the EBM and the case specific details to make appropriate determinations. DO NOT ABDICATE your decisions of MMI and IR to unqualified examiners (or anyone).

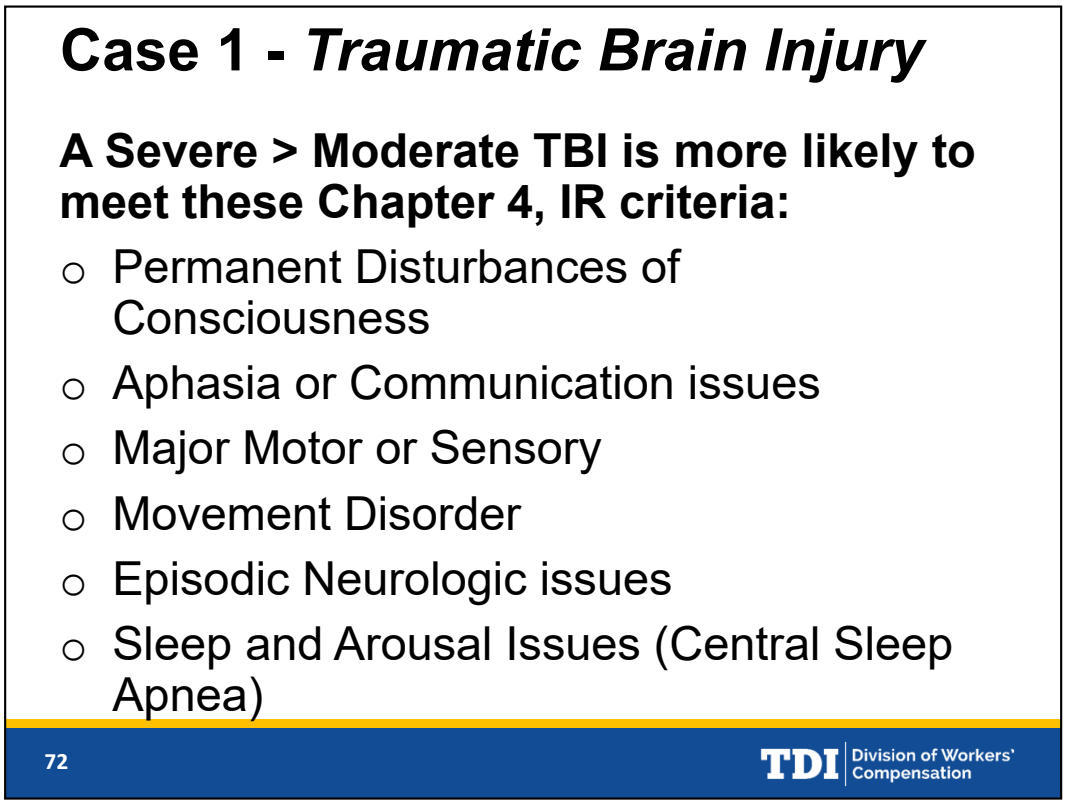
Case 1 -
Traumatic Brain Injury

Considering the EBM and the facts of the case, what is the compensable Injury?

Traumatic Brain Injury Severe

How does that affect decision making?

What might be expected as residuals?



When these types of complaints are present in the records or your DD exam demonstrates inconsistency on the exam,

and there is NOT MOD / SEVERE TBI, use your clinical acumen!.

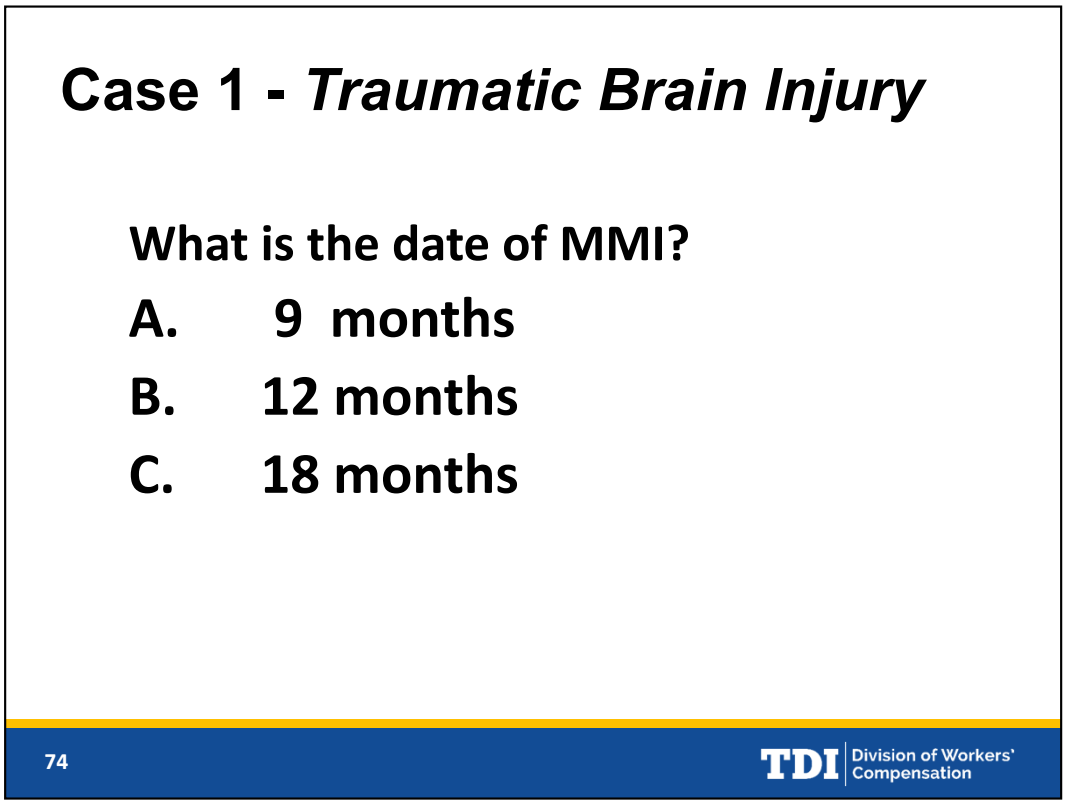
Remember you are not an advocate. Based on the EBM, you cannot take complaints at face value.

Do a forensic exam. Assigning significant IRs for Mild TBIs / concussion that are probable to resolve is an insult to those that have real and significant TBIs.

Malingering increases when compensation – WC and there is third party litigation present.

Case 1 -
Traumatic Brain Injury

Considering the compensable diagnosis and the evidence-based medicine, what is the date of MMI for this case?



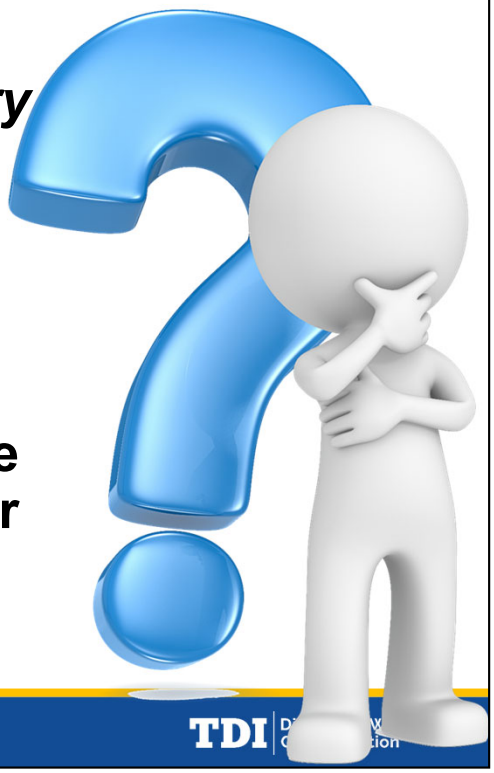
A. While most active treatment was completed by 9 months, tincture of time is often necessary to achieve MMI after significant TBI or SCI.

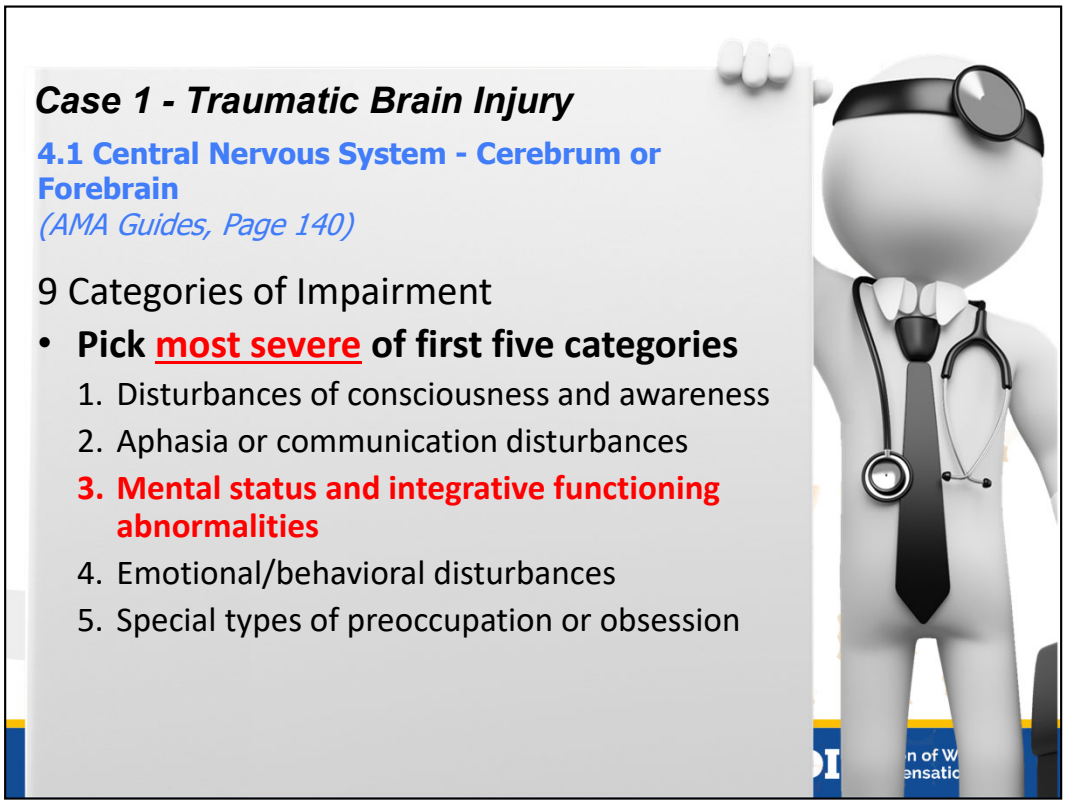
B. 12 months after the DOI, the claimant's seizures were stabilized by one year. However, were their other functional gains? Or the anticipation based on the evidence in the records? (age, lack of co-morbidities would likely reflect a longer period where spontaneous recovery would be anticipated to occur.

C. Best answer is 18 months. This is a reasonable time for recovery after TBI with initial grade of SEVERE. This is according to Model Systems Data for TBI. MSKTC = Model Systems Knowledge Translation Center

Case 1 -
Traumatic Brain Injury

Considering the compensable diagnosis and the evidence-based medicine, what is the impairment rating for this case?





Recall that in absence of Moderate or Severe TBI, unlikely to have ANY impairment, or only experience # 3 or #4.

With a Mod or Severe TBI, any of these are first 5 are probable.

In this case the Neuropsychological testing confirmed # 3 as present, but at the point of MMI, none of the other were present.

The next step is of the DD to chose the IR.

Case 1

Traumatic Brain Injury

Table 2. Mental Status Impairments.

Impairment description	% Impairment of the whole person
Impairment exists, but ability remains to perform satisfactorily most activities of daily living	1 - 14
Impairment requires direction and supervision of daily living activities	15 - 29
Impairment requires directed care under continued supervision and confinement in home or other facility	30 - 49
Individual is unable without supervision to care for self and be safe in any situation	50 - 70

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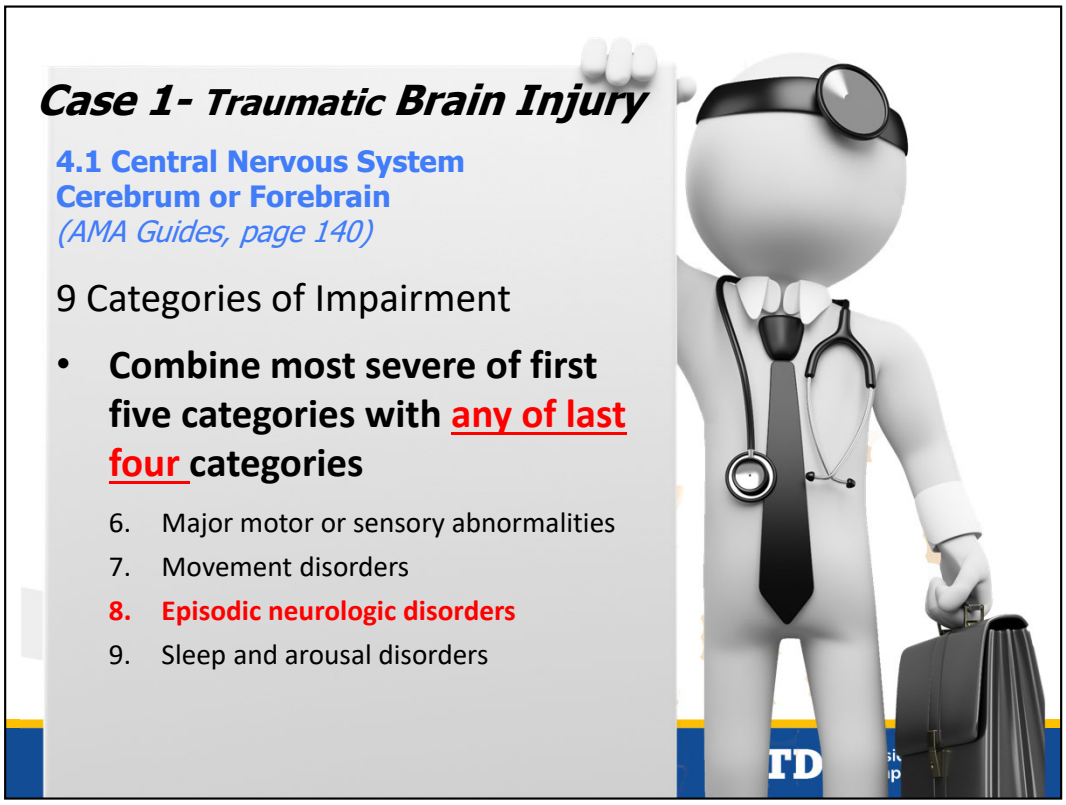
This Table is also used with Chapter 14 for mental/behavioral conditions.

The range is 1 – 14, but you must assign a percent in that range based on the DD exam and the testing results.



The only one of the last FOUR is the episodic neurologic / Seizure disorder.

Case 1-*Traumatic Brain Injury*

Table 5. Impairments Related to Epilepsy, Seizures, and Convulsive Disorders.

Impairment description	% Impairment of the whole person
Paroxysmal disorder with predictable characteristics and unpredictable occurrence that does not limit usual activities but is a *risk* to the patient or limits performance of daily activities	0 - 14
Paroxysmal disorder that interferes with *some* activities of daily living	15 - 29
Severe paroxysmal disorder of such frequency that it limits activities to those that are supervised, protected, or restricted	30 - 49
Uncontrolled paroxysmal disorder of such severity and constancy that it *totally limits* the individual's daily activities	50 - 70

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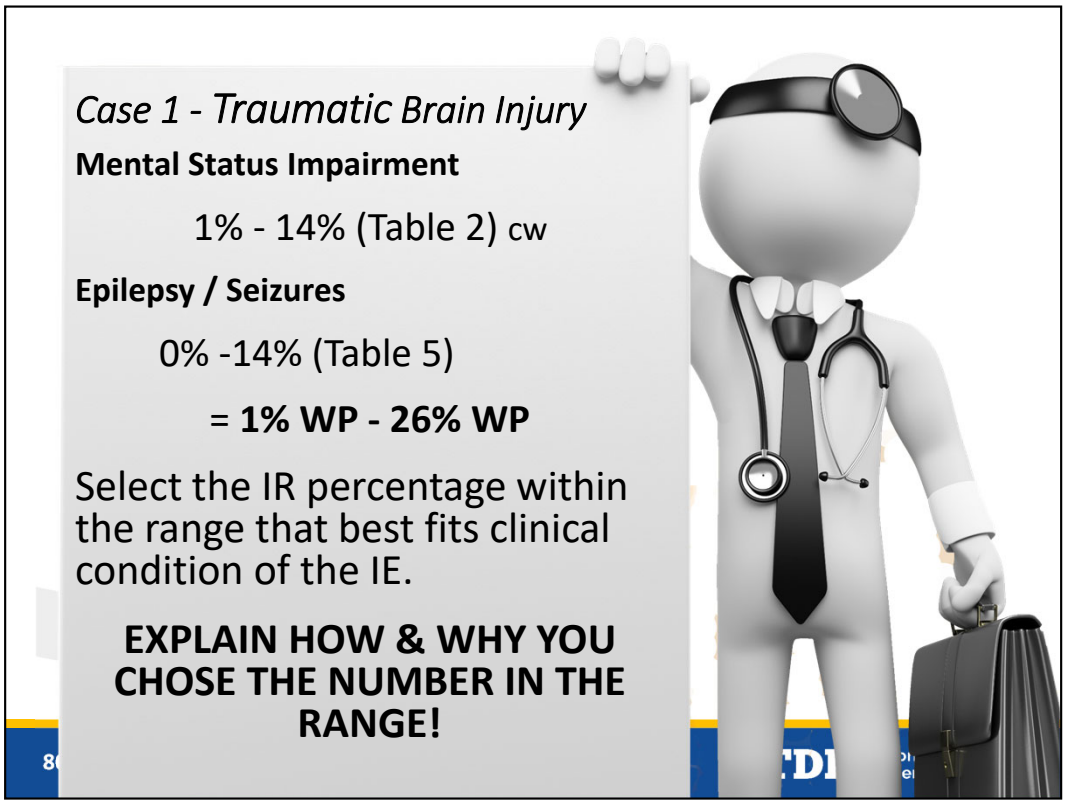
of Workers' sation

Convulsive disorders.

- **Document onset, frequency, duration and effect on ADLs and attempts to control the symptoms.**
- Do the same for Sleep and arousal disorders (Table 6).



Using ADL table. When using the ADL table – consider only the effect of the specific TBI criteria

Do NOT include OTHER MSK / NON-MSK conditions' effects on ADLs – only the element of the TBI are rating.

Questions about Case 1?

Case 2 - *PTSD*

History of Injury

- Convenience store clerk robbed and assaulted at gunpoint
- Diagnosed and treated for PTSD
- Treatment included focused cognitive behavioral therapy and Lexapro SSRI
- Psychological evaluation at MMI 12 months post injury:
  - Complains of disrupted sleep due to nightmares about the robbery
  - Met criteria B - E for DSM-V diagnosis of PTSD

Case 2 - *PTSD*

DD Evaluation:

- Currently reports that therapy and medication have been somewhat helpful, but feels hopeless about future and disinterested in activities previously found enjoyable
- Wife reports he is "jumpy" and startles easily.
- Obsessively ensures that doors are locked and hypervigilant about knowing where wife is / that she is safe
- Mood highly irritable and fighting much more than normal with wife

Important to get collateral information from spouse or family IF available. BUT may want to do as separate interview.

It is best if forensic eval is with a neutral chaperone and without family as there can be an interplay of secondary gain of the claimant and tertiary gain of the claimant family.

Case 2 - *PTSD*

History of Injury

- Not spending as much time with friends, including weekly "guys night out"
- Wife also reports he has begun to drink 5-6 alcoholic beverages most evenings, when he previously abstained
- Able to perform most basic ADLs independently, but requires reminders ~ 25 % of the time
- Has returned to work in a different capacity, but is reported to have difficulty getting to work on time (different than prior job performance)

Are there historical findings that are relevant to a potential diagnosis of PTSD or any other diagnosis?

Are there alternate explanations?

Know the criteria of the DSM-5 so that you may get details necessary.

Nightmares and “flashback” are not enough for PTSD.

Are they specific to the content of the “life threatening” event?

A PCL-5 questionnaire has overlap to physical and other mental and behavioral conditions.

Case 2 - *PTSD*

History of Injury

DD refers for Psychological Testing. WHY?

- Validate if PTSD is the correct diagnosis.
- Criterion H of DSM-V is that there is no better – alternate explanations for the complaints
- Assess if MMI has been reached IF PTSD is correct
- Assign appropriate IR based on an OBJECTIVE assessment – claimant history alone is NOT reliable nor can be validated

Many Dx of PTSD or other DSM-5 disorders from treating doctors are based on subjective symptoms that cannot be validated.

Or based on the BAI, BDI or the PCL-5 for PTSD. These forms and the scoring is readily available on the internet.

A checklist is NOT adequate in the forensic setting.

One has to consider the significant OVERLAP of psychologic symptoms to the healthy population. As an example, check the TBI literature by WANG et al related to symptoms reported in healthy individuals with out psychological diagnoses.

ALSO BE aware of those IE's with psychological disorders pre-existing the incident event and the prevalence of somatoform disorders. One CAN aggravate a pre-existing PSYCH disorder, BUT, there must be OBJECTIVE evidence of additional injury or harm. CONSIDER the DOSE and EXPOSURE to the traumatic event. All part of CAUSATION.

Case 2 - *PTSD*

Psychological Testing:

- Testing was a valid representation of effort without overreporting or significant atypical symptoms.
- Results of clinical interview and testing, including MMPI-2-RF consistent with
  - DSM-5 criteria for PTSD
  - Emotional disturbance that ***"impairs some, but not all"*** useful functioning in the 4 spheres of:
    - ADLs,
    - Social
    - Concentration / pace
    - Adaptation

Case 2 - *PTSD*

UNLESS the Neuropsychologist is also a DD – do NOT defer your opinion to them

- Your opinion must be based on:
  - Evidence in the records
  - Certifying Exam
  - Testing Results
  - Evidence Based Medicine #
- ***Be FAMILIAR with the DSM-5 criterion of PTSD and other potential psychiatric diagnoses.***
- At times, the more appropriate diagnosis may be:
  - A Mood Disorder,
  - An Anxiety Disorder
  - A Somatoform Disorder

= If you are not familiar with the evidence-based medicine related to the more common diagnoses you will e asked about,
PLEASE be minimally familiar with PTSD, the Mood Disorders, Anxiety Disorders and Somatoform Disorders

Case 2 - *PTSD*

Question for DD:

On MMI date, what is whole person IR?

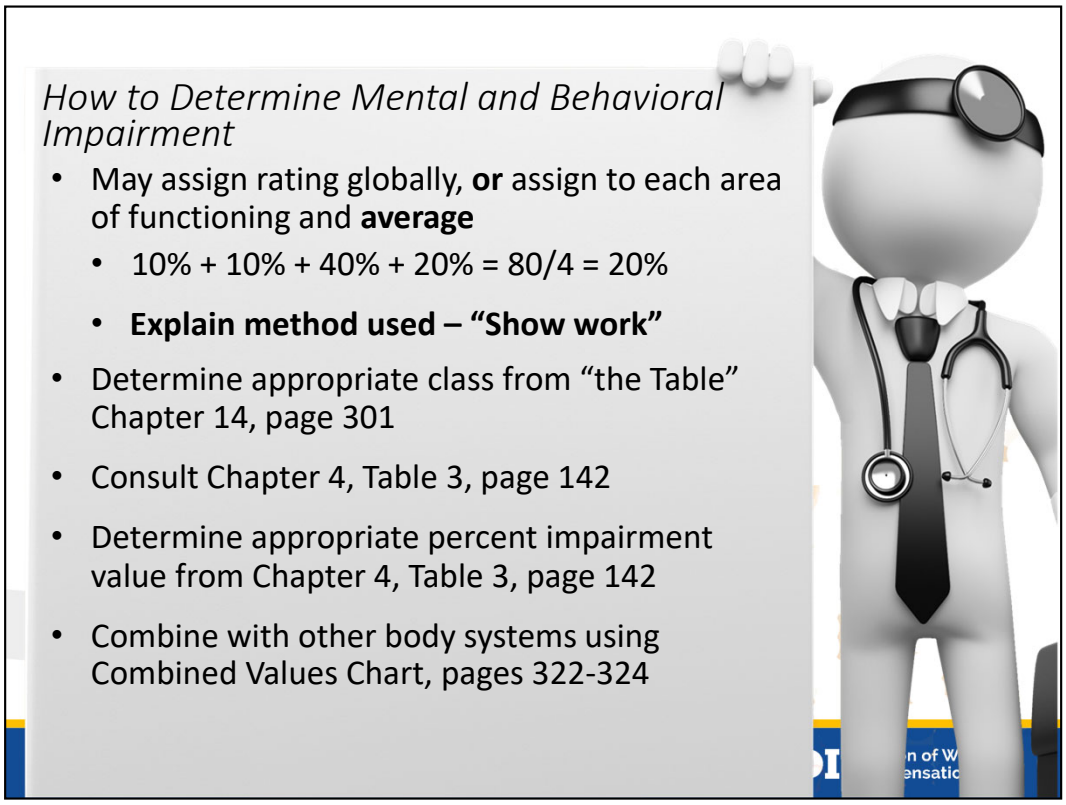
We will start with Chapter 14 for MENTAL AND BEHAVIORAL DISORDERS.

ALSO CONSIDER - Most Mental and Behavioral DX are based on self report.

PTSD is based on subjective SYMPTOMS. PTSD CHECKLIST is readily available to laypeople.

Validate and objectify with Psychological and Neuropsychological Testing.

HARD TO DEFEND A NUMBER YOU JUST MAKE UP.



As an EXAMPLE:

Class 2 or Table in 14 is a MILD Impairment = ***"Impairment Levels are compatible with MOST useful functioning***"

Class 1 on Table 3 in Ch 4 is "Mild Limitation of daily social and interpersonal functioning. Has a range of 0 – 14 %

Case 2 - *PTSD*

PTSD

Chapter 14, “The Table”, page 301

Class 3 - “Impairment levels are compatible with *some*, but not all, useful functioning”

Case 2 - *PTSD*

- Correlates with "Moderate limitation of *some* but not all social and interpersonal daily living functions"
  - Chapter 4, Emotional or Behavioral Impairments, Table 3, page 142
- 15% WP – 29% WP
  - Select single IR percentage within the range, that fits the clinical condition of the claimant

Classification of Impairments Due to Mental and Behavioral Disorders "*The Table" , Page 301*

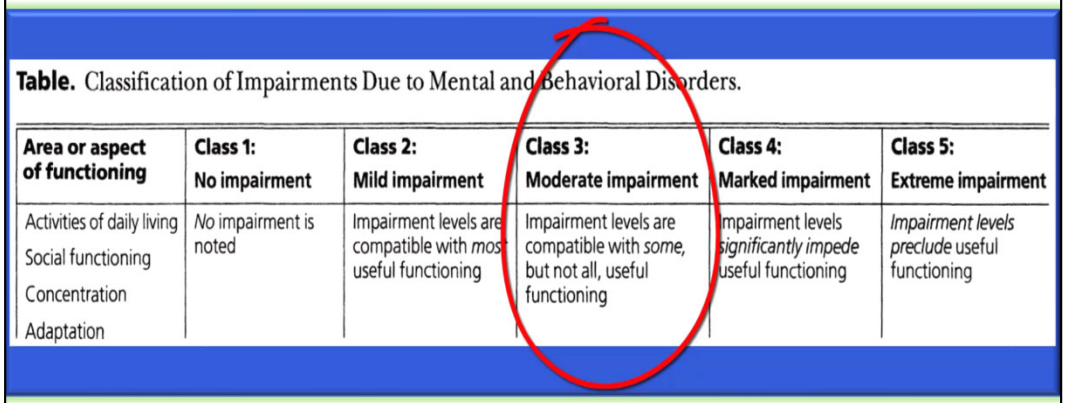


Table. Classification of Impairments Due to Mental and Behavioral Disorders.

Area or aspect of functioning	Class 1: No impairment	Class 2: Mild impairment	Class 3: Moderate impairment	Class 4: Marked impairment	Class 5: Extreme impairment
Activities of daily living Social functioning Concentration Adaptation	*No* impairment is noted	Impairment levels are compatible with *most* useful functioning	Impairment levels are compatible with *some*, but not all, useful functioning	Impairment levels *significantly impede* useful functioning	*Impairment levels preclude* useful functioning

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TDI Division of Workers' Compensation

Pay attention to the terms "most", "some", "significantly impede", and "preclude" useful functioning.

Classification of Impairments Due to Mental and Behavioral Disorders

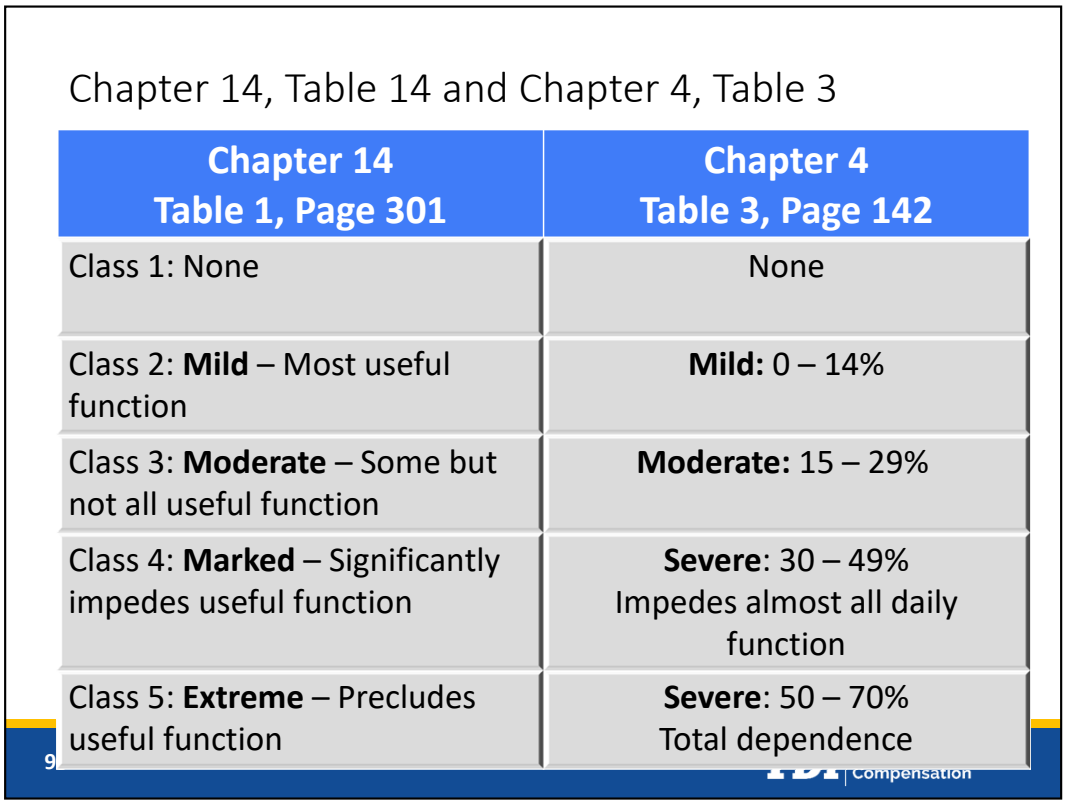
"The Table" , Page 301

Area of Function	CLASS 1 No Impairment	CLASS 2 Mild	CLASS 3 Moderate	CLASS 4 Marked	CLASS 5 Extreme
ADL					
Social	No impairment	Most useful function	Some, but not all useful function	Significant loss of useful function	Precludes useful function
Concentration, Pace					
Adaptation					

Chapter 4, Table 3, Page 142

Table 3. Emotional or Behavioral Impairments.

Impairment description	% Impairment of the whole person
Mild limitation of daily social and interpersonal functioning	0 - 14
Moderate limitation of *some* but not all social and interpersonal daily living functions	15 - 29
Severe limitation impeding useful action in *almost all* social and interpersonal daily functions	30 - 49
Severe limitation of all daily functions requiring total dependence on another person	50 - 70



May want to screenshot, print and staple into your Guides.

Case 2 - *PTSD*

Detail in your report how ***"Moderate limitation of some but not all social and interpersonal daily living functions"*** from Chapter 14 corelates with the Chapter 4, Emotional or Behavioral Impairments from Table 3, page 142.

- 15% WP – 29% WP
  - •Select single IR percentage within the range that best fits clinical condition of IE

Depends on ADLs.
When you discuss this in your report – draw the analogy between the Chapter 14 and Chapter 4 Tables.
Copy and past this prior slide if necessary.

Questions about Case 2?

OTHER GENERAL QUESTIONS?

Evidence-Based Medicine

Traumatic Brain Injury
and
Mental & Behavioral Disorders

This is information to review and consider AFTER the Webinar.
We will not be covering it in the webinar today.

TBI and Mental & Behavioral

Additional Evidence Based Medicine related to TBI

Traumatic Brain Injury

Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5)

- *"Neurobehavioral symptoms tend to be the most severe in the time frame immediately after the TBI".*
- *"Except in cases of severe TBI, the typical course is complete or substantial improvement in associated neurocognitive, neurological and psychiatric symptoms and signs".*

Traumatic Brain Injury

- As per the DSM-5, **"*Neurocognitive symptoms associated with mild TBI tend to resolve within days to weeks after the injury with complete resolution typical by 3 months".***

American Psychiatric Association (APA). The Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition, DSM-5, 2013.

Traumatic Brain Injury

- The Department of Defense (DOD) / Veterans Affairs (VA) also concluded that most individuals who have sustained a concussion form of mTBI improve with no lasting clinical sequelae.
- The DSM-5 AND the DOD / VA consensus is also consistent with the vast majority of EBM literature that in most individuals, the effects of a true concussion event resolve within 3 months and have no lasting neuro-cognitive-behavioral sequalae.

Traumatic Brain Injury

- When symptoms persist beyond the 3 months after a valid concussion event, the SYMPTOMS are more probable to be due to another disorder, so there is considerable risk of misdiagnosis of a collection of symptoms as being due to post-concussion syndrome.
- **Causes for persistent symptoms after an injury to the head:**
  - Organic (real),
  - Psychological factors or psychiatric disorders
  - Non-injury related factors **[See References.]**

Traumatic Brain Injury

Be aware of what types of findings are consistent with the different clinical grades of TBI.
Mild TBI and most Moderate TBI are unlikely to be associated with several categories of potential IR under Chapter 4:

- Disturbances of consciousness and awareness
- Aphasia or Communication Disturbances
- Special types of preoccupation or obsession
- Major motor or sensory abnormalities
- Movement disorders
- Episodic neurologic disorders
- Sleep and arousal disorders.

Traumatic Brain Injury
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An excellent starting reference for learning about expectations after TBI.

McCrea, MA (2008). **Mild Traumatic Brain Injury and Post-concussion Syndrome: The New Evidence Base for Diagnosis and Treatment.** American Academy of Clinical Neuropsychology. Oxford University Press.

- Chapter 8: Acute Symptoms and Symptom Recovery, p 85 – 96.
- Chapter 9: Acute Cognitive Effects and Early Recovery, p 97 - 108.
- Chapter 10: Neuropsychologic Recovery , p 109 – 118.
- Chapter 12: Measuring Neurophysiologic Recovery, p 125 – 132.

All chapters valuable.

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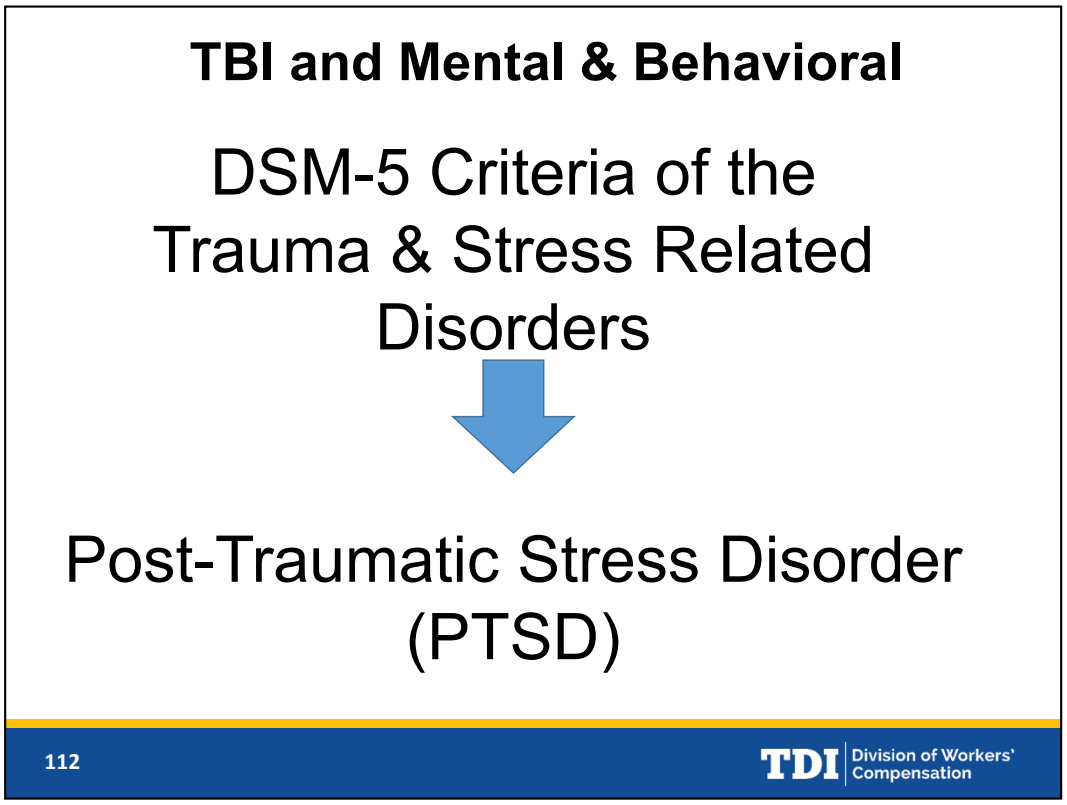

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Trauma & Stress Related Disorders

Trauma and stressor related disorders are *"disorders in which exposure to a traumatic or stressful event(s) is listed explicitly as a diagnostic criterion".* [DSM-V.]

- These include:
  - Adjustment disorders,
  - Acute stress disorder (ASD)
  - Post-traumatic stress disorder (PTSD),
- Exposure to stressors can result in expression of anxiety or fear-based symptoms or dysphoric symptoms, angry or aggressive symptoms or dissociative symptoms.
- Not uncommon for there to be a combination of symptoms after a significant trauma.

Trauma stressor related disorders include a few other lesser-known disorders.

Trauma & Stress Related Disorders

- A minority of victims of traumatic events have sufficient symptoms to fulfill the diagnostic criteria for ASD or PTSD.
- The number of individuals that have been abused or neglected, raped or assaulted, robbed, had catastrophic near-death accidents, been in natural disasters and witnessed death is astounding.
- All will have a period of adjustment after such a traumatic event(s), but most come out of this phase and never meet DSM-5 criteria for a specific diagnosis and return to their psychological baseline.
- Not everyone exposed to life-threatening events develops ASD/ PTSD.
- Of those that develop ASD, only a small percent goes on to develop PTSD.

What ARE the criteria for PTSD?

The first criterion for both ASD and PTSD is:

A. Exposure to actual or threatened death, serious injury, or sexual violation in 1 (or more) of the following ways:

- Directly experiencing the traumatic events(s) AND / OR
- Witnessing, in person, the event(s) happening to others, AND / OR
- Learning that the event(s) occurred to a close family member or close friend (in cases of actual or threatened death of a family member or friend, the event(s) must have been violent or accidental),
- Experiencing repeated or extreme exposure to aversive details of the traumatic event(s)

Criterion for ASD and PTSD are similar, mainly differ in length of time of symptoms.

Simailar to TBI, there must be sufficient EXPOSURE or correct MOI, but then must meet other appropriate criteria.

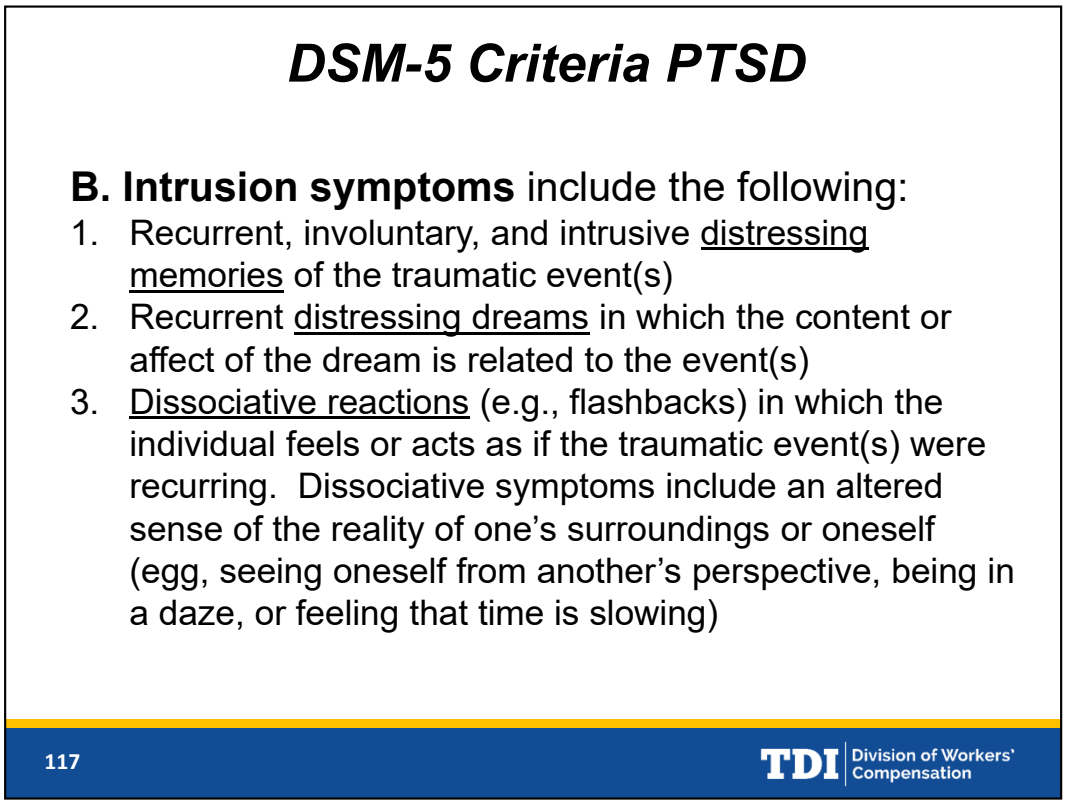
DSM-5 Criteria PTSD

Criterion B. - E.

B. Intrusion symptoms:
C. Persistent avoidance of stimuli associated with the traumatic event
D. Negative alterations in cognition or mood associated with the traumatic event(s)
E. Marked alterations in arousal and reactivity associated with the traumatic event(s)

B / C / D / E = beginning or worsening after the traumatic event(s) occurred

We will discuss each of these individually.



Bad dreams in general do not qualify. Dream must be symbolic of the event(s) leading to PTSD.
Flashback is not a brief remembrance of the event – this must be associated with dissociative state.

KEEP a CHECKLIST OF the PTSD Criterion
ASK QUSTIONS related to INTRUSIONS SYMPTOMS

DSM-5 Criteria PTSD

B. Intrusion symptoms include the following (continued):

4. Intense or prolonged psychological distress in response to internal OR external cues that symbolize or resemble an aspect of the traumatic event(s)
5. Marked physiologic reactions in response to internal OR external cues that symbolize or resemble an aspect of the traumatic event(s)

DSM-5 Criteria PTSD

C. Persistent avoidance of stimuli associated with the traumatic event beginning or worsening after the traumatic event(s) occurred as evidence by one or both of the following:

1. Avoidance of or efforts to avoid distressing memories, thoughts, or feelings about or closely associated with the traumatic event(s),
2. Avoidance of or efforts to avoid external reminders (egg, people, places, conversations, activities, objects, or situations) that arouse distressing memories, thoughts, or feelings about or closely associated with the traumatic event(s).

If there was a specific location of an event, not walking or driving near the location, even when clearly must go out of the way.

KEEP a CHECKLIST OF the PTSD Criterion
ASK QUSTIONS related to Avoidance of STIMULI SYMPTOMS

DSM-5 Criteria PTSD

D. Negative alterations in cognition or mood associated with the traumatic event(s) beginning or worsening after the traumatic event(s) occurred as evidence by two (or more) of the following:

1. Inability to remember an important aspect of the traumatic event(s), typically resulting from **dissociative amnesia** and **not** from other factors (egg, head injury, alcohol or drugs)
2. Persistent and exaggerated negative beliefs or expectations about oneself, others or the world,
3. Persistent, distorted cognitions about the cause or consequences of the traumatic event that lead the person to blame themselves or others,

1. Very important to rule out that any amnestic period is due to head injury / TBI, alcohol or drugs
2. Belief that there is something they or another individual could have done to prevent the event. At times that is true, but often events are out of anyone's control
3. This is somewhat related to #2

KEEP a CHECKLIST OF the PTSD Criterion
ASK QUSTIONS related to NEGATIVE ALTERATION SYMPTOMS

DSM-5 Criteria PTSD

D. Negative alterations in cognition or mood associated with the traumatic event(s)(continued)

4. Persistent negative emotional state,
5. Markedly diminished interest or participation in significant activities,
6. Feelings of detachment or estrangement from others
7. Persistent **inability** to experience positive emotions (egg, inability to experience happiness, satisfaction, or loving feelings

DSM-5 Criteria PTSD

E. Marked alterations in arousal and reactivity associated with the traumatic event(s) beginning or worsening after the traumatic event(s) occurred as evidence by two (or more) of the following:

1. Irritable behavior and angry outbursts (with little or no provocation), typically expressed as verbal or physical aggression toward people or objects,
2. Reckless or self-destructive behavior,
3. Hypervigilance,
4. Exaggerated startle response
5. Problems with concentration
6. Sleep disturbance (egg, difficulty falling or staying asleep or restlessness during sleep)

#5 and #6 should NOT be due to medication effects, alcohol, TBI or other medical causes (OSA)

KEEP a CHECKLIST OF the PTSD Criterion
ASK QUSTIONS related to AROUSAL AN REACTIVITIY SYMPTOMS

DSM-5 Criteria PTSD

F. The **duration** of the disturbance is: PTSD = more than one month for Criteria B, C, D, and E.
G. The **disturbance causes** clinically significant distress or impairment in social, occupational, or other important areas of functioning.
H. The **disturbance cannot be attributed to** the physiologic effects of a substance (e.g., a medication or alcohol) or another medical condition (e.g., mild traumatic brain injury) and cannot be better explained by a diagnosis of brief psychotic disorder.

Criterion H. is a very important criteria and must be kept in mind when multiple different medications are used without oversight and vigilance.
Withdrawal and intoxication with polypharmacy.

TBI & Mental and Behavioral

Criteria H for PTSD

DSM-5 disorders that are MORE COMMON and part of the differential diagnosis process:

- Bipolar and Related Disorders
- Anxiety Disorders
- Somatic and Symptom Related Disorders
- Sleep-Wake Disorders (including Shift-work Disorder)
- Neurodevelopmental Disorders

There CAN BE more than one DSM-5 Diagnosis, but be aware that IF the DOSE of the life-threatening injury is limited, there may be an alternate explanation.

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Non-MSK

You will find more complete discussion of some of the NON-MSK Chapters along with pearls related to other Chapters in the PDF for the NON-MSK section of the Certification Course.

THANK YOU

https://www.tdi.texas.gov//wc/dd/training.html