ECHO IDAHO: BEHAVIORAL HEALTH IN PRIMARY CARE

Concussion and Mental Health

9/16/20

Sarah DeBoard Marion, Ph.D.

Clinical Neuropsychologist

St. Luke's Rehabilitation Hospital

The speaker has no relevant financial relationship(s) to disclose.

The University of Idaho, WWAMI Medical Education Program is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians.

The University of Idaho, WWAMI Medical Education Program designates this live activity for a maximum of 1.0 AMA PRA Category 1 Credit(s)™. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

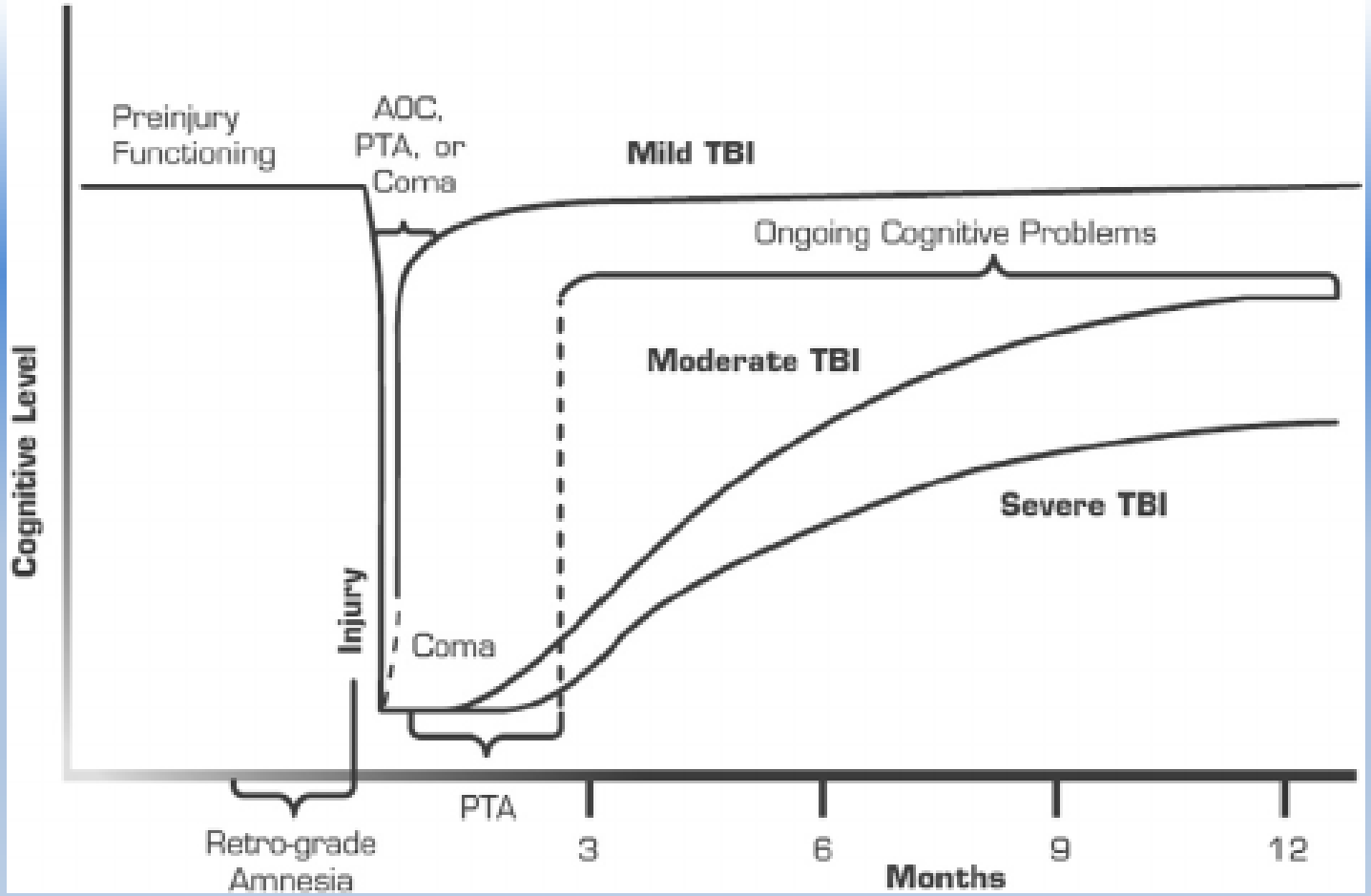
Learning Objectives

- Following this presentation, learners should be able to:
- Summarize the key findings of research on the overlap between psychological symptoms and prolonged recovery from concussion/mTBI.
- State when it is and is not appropriate to refer patients for neurocognitive evaluation.
- Manage patient expectations regarding recovery from mTBI/concussion.

University of Idaho
WWAMI Medical Education

Project ECHO

Recovery Trajectory



(Vincent, Roebuck-Spencer, & Cernich, 2014)

University of Idaho WWAMI Medical Education

Project ECHO

Concussion Symptoms

Emotional

- Irritability
- Emotional lability
- Depression
- Anxiety

Cognitive

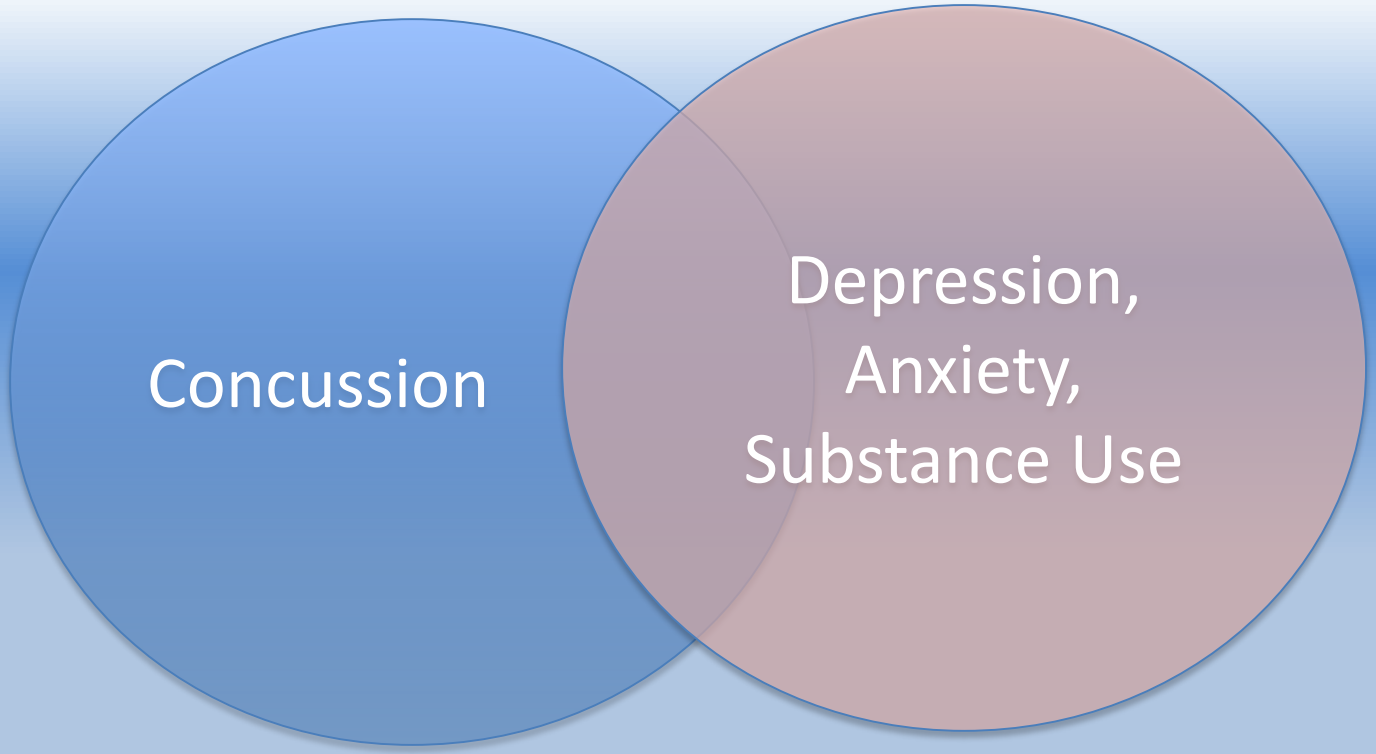
- Slowed processing speed
- Attentional problems
- Executive dysfunction
- Memory Difficulties

Physical

- Headaches
- Fatigue
- Insomnia
- Dizziness

University of Idaho
WWAMI Medical Education
Project ECHO

Symptom Overlap



University of Idaho
WWAMI Medical Education
Project ECHO

Symptom Overlap

- Comorbidities with associated cognitive difficulties
  - PTSD
  - Depression
  - Anxiety
  - Pain
  - Medical conditions
  - Adjustment disorders
  - Substance Abuse
  - Sleep disorders

University of Idaho
WWAMI Medical Education
Project ECHO

Research on Symptom Overlap

- In general, there is very little evidence that concussion leads to longer-standing neurocognitive deficits in the absence of other complicating factors.
- Example: In OEF/OIF Veterans, PTSD, depression, and other psychiatric outcomes significantly associated with poorer neuropsychological outcomes.
- **Remote history of mTBI (e.g., >6 months post injury) with or without loss of consciousness not associated with cognitive outcomes when these psychiatric factors are taken into account**" (Nelson et al, 2012; Shandera-Ochsner et al, 2013; Verfaellie et al, 2013)

University of Idaho
WWAMI Medical Education
Project ECHO

“Post-Concussion” in Depression
(Iverson, 2006)

- Patients with Depression
  - ICD-10 Criteria for Post-concussion syndrome
    - Headaches, dizziness, malaise & fatigue, noise intolerance (92.2% mild; 65.6% mod./severe)
    - Irritability, lability, depression, anxiety (87.5% mild; 68.8% mod/severe
    - Subjective concentration/memory difficulty (78.1% mild; 54.7% mod./severe)
    - Insomnia (78.1% mild; 53.1% mod/severe)
    - Reduced tolerance to alcohol (35.9% mild; 12.5% mod/severe)
    - Preoccupation with Sx’s and fear of brain damage (76.6%; 26.6%)
- Meet Criteria for Post-Concussive Syndrome
  - 89% endorsed three or more symptoms with 57.8% at clinically significant level
- Iverson, McCrae and others have replicated these findings in a large study of athletes (Lovell, et al., 2010)

Psychological Symptoms following mTBI (Broshek et al., 2015)

- Animal models of concussion and mild traumatic brain injury suggest that a concussion can result in anxiety and fear reactions consistent with a cortico-limbic model of depression.
- Additionally, some individuals are at risk for neurobiological depression and/or anxiety following a concussion.
- The literature also demonstrates that pre-morbid and concurrent anxiety increases the risk for prolonged concussion recovery.
- Cognitive biases and misattribution of symptoms contribute to lengthy recovery from concussion.
- In addition, medically prescribed excessive cognitive and physical rest may contribute to a protracted concussion recovery.
- Supervised and graduated physical activity, the introduction of anxiety reduction techniques and cognitive-behavioural therapy of cognitive biases and misattribution are effective means of shortening the length of post-concussion syndrome.

Moderating Patient Expectations: Terminology

History of mild TBI

History of concussion

Has a TBI

Brain damaged

mild TBI patients

Patients with mild TBI

University of Idaho
WWAMI Medical Education

Project ECHO

Moderating Patient Expectations

- "Diagnosis Threat" is associated with
  - Decreased memory, attention/working memory & psychomotor speed on testing (Suhr & Gunstad, 2002, 2005)
  - Lower academic self-efficacy (Trontel et al., 2013)
  - More self-reported attention-related errors and everyday memory failures (Ozen et al., 2011)
- Focus on treating the symptoms and education

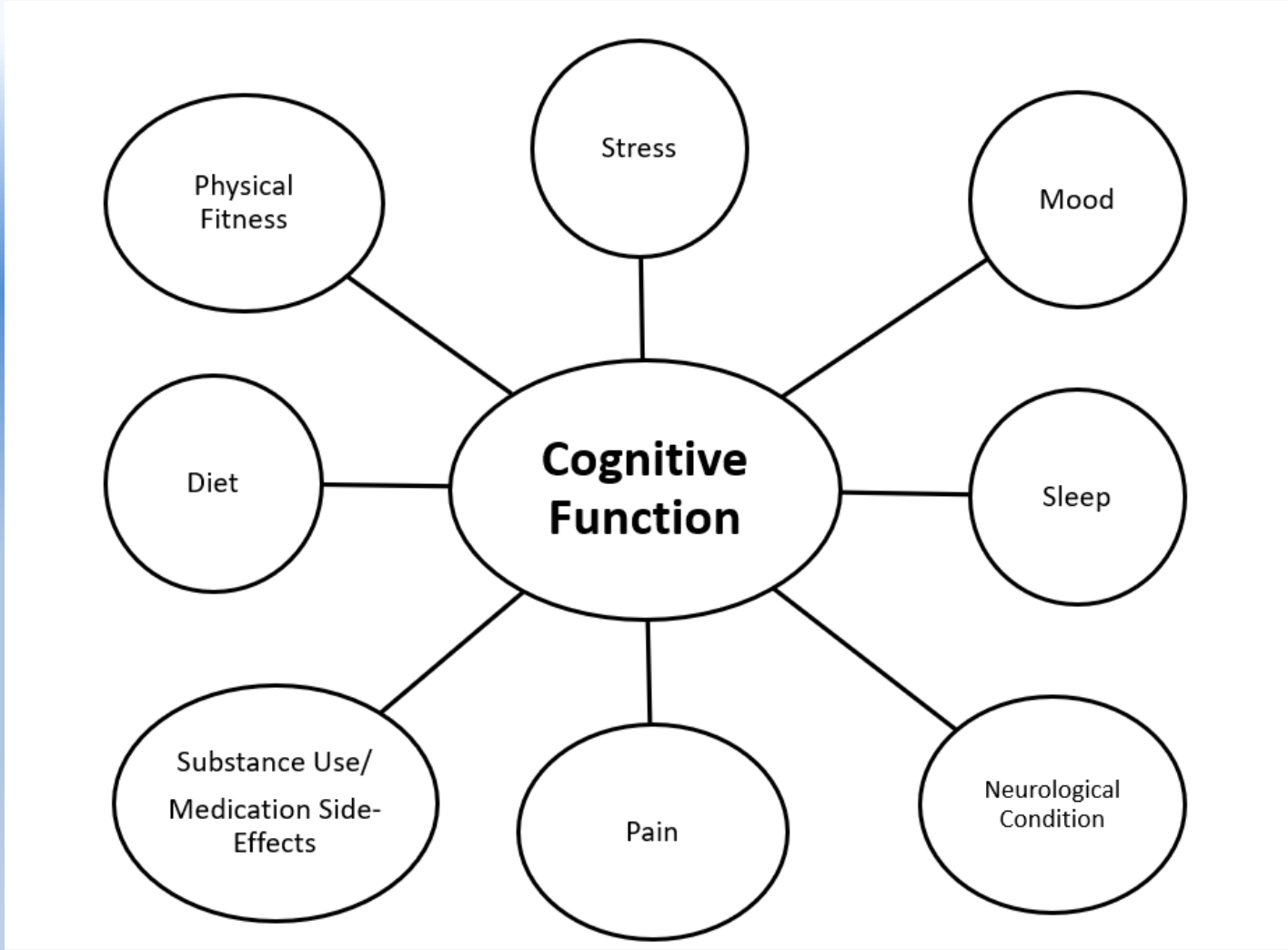
University of Idaho
WWAMI Medical Education
Project ECHO

Moderating Patient Expectations

- Generally: *"Misattribution of symptoms to a residual TBI when such symptoms may be secondary to stress, chronic sleep deprivation, PTSD, or other mental health conditions, could iatrogenically reinforce the misconception that these symptoms are permanent."* (Belanger, 2014)
- Also Carefully Consider Appropriateness of Neuropsychological Evaluation Following mTBI
  - Reasons for Referral to Neuropsychology
  - Management vs. Evaluation

University of Idaho WWAMI Medical Education
Project ECHO

Factors Affecting Cognition



University of Idaho
WWAMI Medical Education
Project ECHO

Take Home Message

- There are many factors other than history of concussion that can be contributing to cognitive complaints.
- Primary care physicians and others can BOTH validate a patient's experience following concussion/mTBI AND manage expectations (avoiding mis-attribution of symptoms to wrong cause).
- Increased need for treatment-oriented options in Idaho as regards psychology and neuropsychology referrals.

University of Idaho
WWAMI Medical Education
Project ECHO

References

- Belanger, Brosheck, et al. (2015). A review of post-concussion syndrome and psychological factors associated with concussion. Brain Injury, 29(2), 228-237.
- Iverson, G. (2006). Misdiagnosis of the persistent postconcussion syndrome in patients with depression, Archives of Clinical Neuropsychology, 21, 303–310.
- Mayberg HS. (2003). Modulating dysfunctional limbic-cortical circuits in depression: towards development of brain-based algorithms for diagnosis and optimized treatment. British Medical Bulletin, 65:193–207.
- Mark R. Lovell, et al. (2006) Measurement of Symptoms Following Sports-Related Concussion: Reliability and Normative Data for the Post-Concussion Scale, Applied Neuropsychology, 13:3, 166-174, DOI: 10.1207/s15324826an1303_4

University of Idaho
WWAMI Medical Education

Project ECHO

ECHO Idaho: Behavioral Health in Primary Care

JOIN US FOR OUR NEXT SESSION!

For information, please visit uidaho.edu/echo

University of Idaho
WWAMI Medical Education

Project ECHO

Ongoing Resource List

RESOURCES FROM TODAY'S SESSION AND PAST SESSIONS CAN BE FOUND IN OUR ONGOING RESOURCE LIST.

https://iecho.unm.edu/sites/uidaho/download.hns?i=85

University of Idaho
WWAMI Medical Education

Project ECHO