



VA/DoD Clinical Practice Guideline for the Management of Concussion/mTBI

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Disclosure Statement

- We have no current affiliation or financial arrangement with any grantor or commercial interest that might have direct interest in the subject matter of this CE program

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Objectives

- **Review background of mTBI**
- **Review definitions of TBI and mTBI**
- **Present overview of mTBI Clinical Practice Guideline**
- **Review signs and symptoms of mTBI**
- **Discuss management of mTBI/concussion symptoms**



Background

- **mTBI is one of several “signature” injuries of current wars in Iraq and Afghanistan**
- **More than 300,000 soldiers have experienced mTBI in the war**
- **Vast majority will fully recover from mTBI**
- **Stigma of being diagnosed with brain injury.**



Overview



- **mTBI CPG is designed to guide the provider in the management of mTBI symptoms seen 7 days or longer after injury**
- **The recommendations focus on symptom management**
- **This CPG recommends use of the term concussion in discussion with patients and families**



Scope of the mTBI Guideline

- **Management of patient with mTBI:
(Concussion)**
 - **Outpatient setting**
 - **Presenting 7 or more days post injury**



Scope of the mTBI Guideline (cont)

- **This CPG does not cover:**
 - Moderate or severe TBI
 - Mild TBI as component of polytrauma and managed in an inpatient setting
 - Management of Mild TBI in acute phase (1st 7 days post injury)
 - mTBI in children



Definition of (Moderate/Severe) TBI

- **A traumatically induced structural or physiological injury, disrupting brain function, resulting in new onset or worsening of at least one of the following:**
 - **Loss of or a decreased level of consciousness (LOC)**
 - **Post-traumatic amnesia (PTA)**
 - **Alteration of consciousness/mental state at the time of the injury (AOC)**
 - **Neurological deficits that may or may not be transient**
 - **Intracranial lesion**



Definition of mTBI

- **A head injury caused by blunt trauma or acceleration or deceleration forces, resulting in at least one of the following:**
 - **Observed or self-reported**
 - **Transient AOC**
 - **Memory loss around the time of injury**
 - **LOC lasting less than 30 minutes**
 - **Observed neurological or neuropsychological dysfunction**
 - **Seizures immediately following head injury**
 - **Headache, dizziness, irritability, fatigue or poor concentration, when identified soon after injury, can support the diagnosis of mild TBI, but cannot be used alone to diagnose mTBI**



TBI Classification of Severity Level

Criteria	Mild	Moderate	Severe
Structural imaging	Normal	Normal or abnormal	Normal or abnormal
Loss of Consciousness (LOC)	0–30 min*	>30 min and < 24 hours	> 24 hrs
Alteration of consciousness/mental state (AOC)	a moment up to 24 hrs	>24 hours. Severity based on other criteria	
Post-traumatic amnesia (PTA)	0–1 day	>1 and <7 days	> 7 days



CPG Overview

- **Recommendations focus on early assessment and proactive symptoms management for the first 4-6 weeks after initial evaluation**
- **Recommends use of ‘concussion’ in discussion with patients and families**
- **Includes rehabilitation components**
 - **Return to work**
 - **Community reintegration/participation**



Key Points

- **Concussion injury generally improves with no lasting complications**
- **Most patients recover within hours to days with a small number of patients taking longer**
- **Reassure patients that the condition is transient and a full recovery is expected**
- **Avoid the term “brain damage”**
- **Apply risk communication approach**



Key Points (cont)

- **Symptoms commonly seen in Post Concussive Syndrome (PCS) are not unique to TBI**
- **Treatment of persistent symptoms focus on the management of the specific symptoms**
- **Psychological and social adjustment issues, particularly in the context of combat, play a critical role in overall care**



Algorithms

- **Algorithm A: Initial Presentation**
- **Algorithm B: Management of Symptoms**
- **Algorithm C: Follow-up Persistent Symptoms**



Algorithmic Format



- **Algorithmic format outlines step by step decision points**
- **Rarely used in other guidelines**
- **Allows providers to follow linear approaches to critical information and includes:**
 - **An ordered sequence of steps of care**
 - **Recommended observations**
 - **Decisions to be considered**
 - **Actions to be taken**



Clinical Algorithm Diagrams

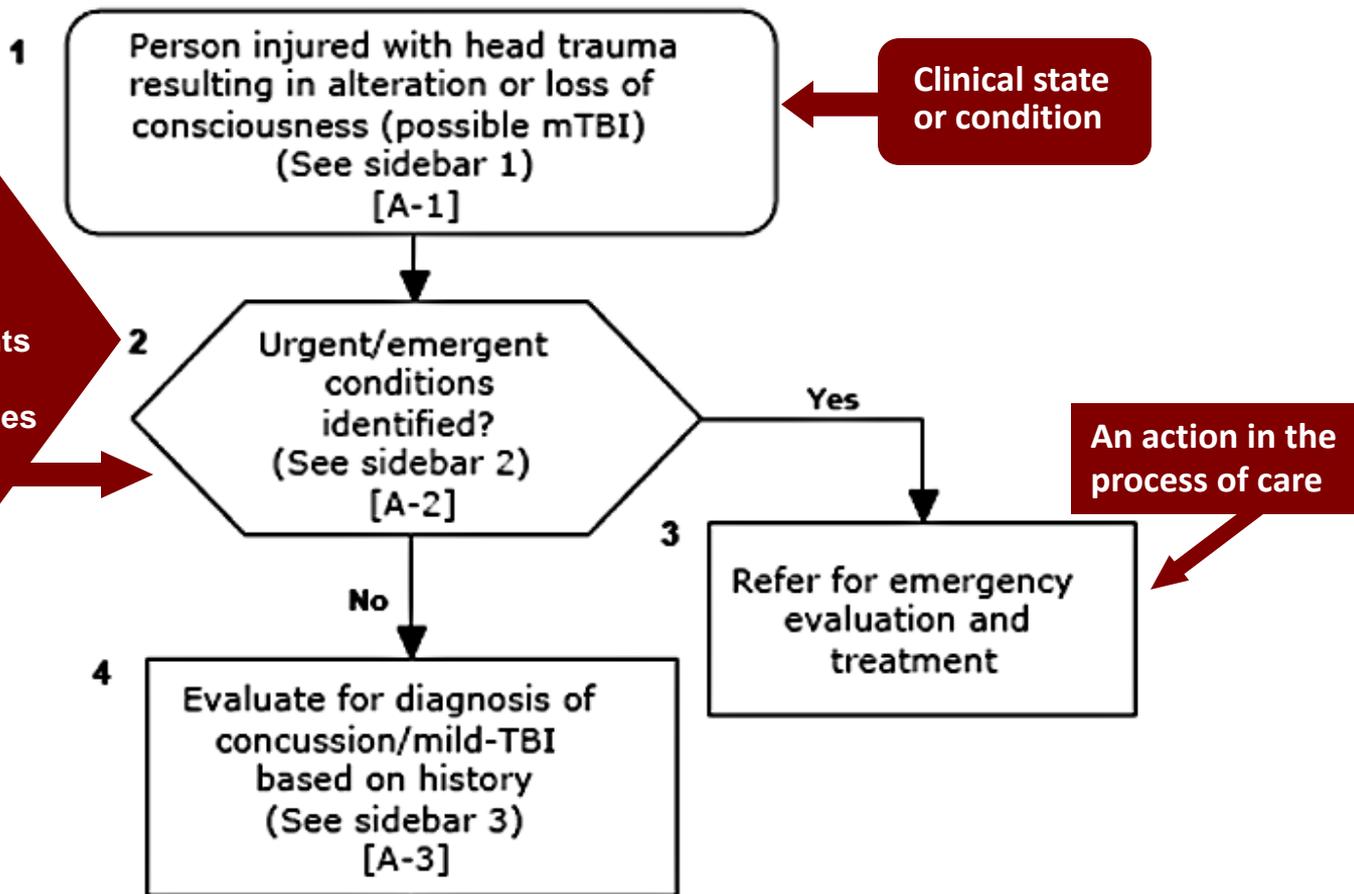


- **Standardized symbols are used for step by step decision making**
- **Arrows connect the numbered boxes indicating the order in which the steps should be followed**
- **Letters in the boxes are associated with the annotations**



Standardized Symbols

Decision points formulated as a question that can be answered Yes or No.
YES - horizontal arrow points to the next step.
NO - vertical arrow continues to the next step.



[Letter is associated with the annotation]



Indicators for Immediate Referral

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1. Current altered consciousness
2. Progressively declining neurological exam
3. Pupillary asymmetry
4. Seizures
5. Repeated vomiting
6. Double Vision
7. Worsening headache
8. Cannot recognize people or disoriented to place
9. Behaves unusually or confused and irritable
10. Slurred speech
11. Unsteady on feet
12. Weakness or numbness in arms/legs



Post-Concussion/mTBI Related Symptoms *

Post-Concussion/mTBI Related Symptoms *

Physical Symptoms:

Headache, dizziness, balance disorders, nausea, fatigue, sleep disturbance, blurred vision, sensitivity to light, hearing difficulties/loss, sensitivity to noise, seizure, transient neurological abnormalities, numbness tingling

Cognitive Symptoms:

Attention, concentration, memory, speed of processing, judgment, executive control

Behavior/Emotional Symptoms:

Depression, anxiety, agitation, irritability, impulsivity, aggression

* Symptoms that develop within 30 days post injury



Symptom Attributes



Symptom Attributes

Duration of symptom

Onset and triggers

Location

Previous episodes

Intensity and impact

Previous treatment and response

Patient perception of symptom

Impact on functioning



Early Intervention



Early Intervention

- Provide information and education on symptoms and recovery
 - Educate about prevention of further injuries
 - Reassure on positive recover expectation
 - Empower patient for self management
-
- Provide sleep hygiene education
 - Teach relaxation techniques
 - Recommend limiting use of caffeine/tobacco/alcohol
 - Recommend graded exercise with close monitoring
- Encourage monitored progressive return to normal duty/work/activity



Case Management



Case Management

Assign case manager to:

- Follow-up and coordinate (remind) future appointments
- Reinforce early interventions and education
- Address psychosocial issues (financial/family/housing/school/work)



Psychosocial Evaluation

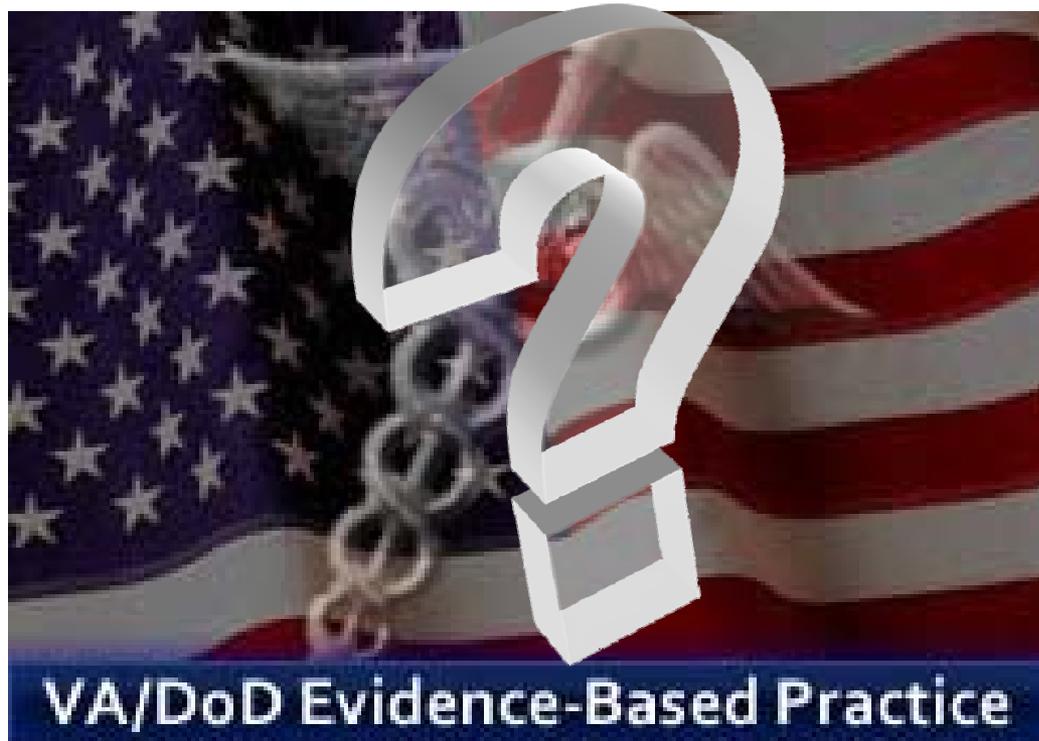


Psychosocial Evaluation

1. Support system
2. Mental health history
3. Co-occurring conditions (chronic pain, mood disorders, stress disorder, personality disorder)
4. Substance use disorder
5. Secondary gain issues (compensation, litigation)
6. Unemployment or change in job status



QUESTIONS



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<https://www.QMO.amedd.army.mil>