



# A lot has changed

## Your TBI clinic can help!

### **Concussion Modernization:**

- ❖ Acute Concussion Pathway of Care
- ❖ Symptom Clusters
- ❖ Emphasis on Vestibular and Oculomotor Rehab
- ❖ Blast Exposure: Risk Reduction and Management
- ❖ Coming Fall 2020 on JKO: New TBI Training Videos

**Flip over for new tools and contact!**

**D. TBI Symptom Clusters** guide treatment. Patients often present with overlapping symptoms. Symptoms should be reevaluated regularly to assess risk of protracted recovery. Use the MACE 2 results and symptoms to guide your treatment and management.

Symptom Cluster	Actions	DVBIC Clinical Recommendation	Referral Considerations
<b>Cognitive</b> (MACE 2: Q5-8 & Q15-16)	Identify: headaches, pain, psychological health, sleep disturbance, oculomotor dysfunction, medication side effects Consider: cognitive rest, reduction of stimuli, Neurocognitive Assessment Test (NCAT), oculomotor assessment	<b>Cognitive Rehabilitation</b> for Service Members and Veterans Following Mild to Moderate Traumatic Brain Injury  (Starts treatment at >6 weeks post injury)	Sleep Medicine Oculomotor/Neuro-optometry Neuro-ophthalmology Neuropsychology Cognitive Rehabilitation
<b>Vestibular</b> (MACE 2: Q11-12 & Q17)	Identify: vestibular dysfunction, oculomotor dysfunction, headaches, medication side effects, psychological health, sleep disturbance, substance use Consider: modified BESS, oculomotor assessment	Assessment and Management of <b>Dizziness</b> Associated with Mild TBI	Vestibular Therapy (OT/PT) Vision Therapy (OT/PT) Audiology
<b>Oculomotor</b> (MACE 2: Q14 & Q17)	Identify: vestibular dysfunction, oculomotor dysfunction, medication side effects, migraine headaches, psychological health, sleep disturbances Consider: VOMS	Assessment and Management of <b>Visual Dysfunction</b> Associated with Mild Traumatic Brain Injury	Neuro-optometry Neuro-ophthalmology Vision Therapy (OT/PT)

1 Concussion Management Tool



Before initiating concussion management, complete TCCC, MACE 2, and FDA cleared structural brain injury device or tool (if available).

Initial Management up to Seven Days from Injury

1. Review MACE 2, if results are:

a. **NEGATIVE**

- 1) Initiate 24-hour rest\* (mandatory if deployed)
- 2) Go to step 2b

b. **POSITIVE**

- 1) Consider using an FDA cleared concussion assessment device/tool (if available)
- 2) Begin initial concussion management\*
- 3) If three or more concussions in 12 months, refer to recurrent concussion evaluation\*
- 4) Initiate rest\*

2. Reevaluate after 24 hours

- a. if symptom free at rest, conduct exertional testing\*
- b. if symptom free, go to step 4

3. Follow up every 24 to 48 hours

- a. Review MACE 2. Examine concussion assessment to guide primary care.
- b. Progress through the tool:

- 1) Go to Comprehensive Concussion Assessment
- 2) Avoid any potential for re-injury
- 3) Refer to Minimum Medical Standards for Concussion Management
- 4) Consider NCAT testing
- 5) Consider specialty care

4. Return to duty

- a. Communicate findings
- b. Document and code findings

Vestibular/Ocular Motor Test:

BASELINE SYMPTOMS:

Smooth Pursuits

Saccades - Horizontal

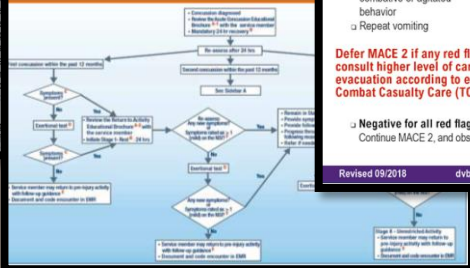
Saccades - Vertical

Convergence (Near Point)

VOR - Horizontal

Progressive Return to Activity Following Acute Concussion/Mild Trauma

Guidance for the Primary Care Manager in Deployed and Non-Deployed Settings



MACE 2  
Military Acute Concussion Evaluation



Use MACE 2 as close to time of injury as possible.

Service Member Name: \_\_\_\_\_

DoD/EDIPI/SSN: \_\_\_\_\_ Branch of Service & Unit: \_\_\_\_\_

Date of Injury: \_\_\_\_\_ Time of Injury: \_\_\_\_\_

Examiner: \_\_\_\_\_

Date of Evaluation: \_\_\_\_\_ Time of Evaluation: \_\_\_\_\_

**Purpose:** MACE 2 is a multimodal tool that assists providers in the assessment and diagnosis of concussion. The scoring, coding and steps to take after completion are found at the end of the MACE 2.

**Timing:** MACE 2 is most effective when used as close to the time of injury as possible. The MACE 2 may be repeated to evaluate recovery.

**RED FLAGS**

Evaluate for red flags in patients with Glasgow Coma Scale (GCS) 13-15.

- Deteriorating level of consciousness
- Double vision
- Increased restlessness, combative or agitated behavior
- Repeat vomiting
- Result from hematoma detection device (if available)
- Seizures
- Weakness or tingling in arms or legs
- Severe or worsening headache

**Defer MACE 2 if any red flags are present. Immediately consult higher level of care and consider urgent evacuation according to evacuation precedence/Tactical Combat Casualty Care (TCCC).**

**Negative for all red flags**

Continue MACE 2, and observe for red flags throughout evaluation.

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Comments

Score Point in cm:  
Score 1: \_\_\_\_\_  
Score 2: \_\_\_\_\_  
Score 3: \_\_\_\_\_

Any Abnormal

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