

Concussion Management Tool (CMT) Training

Student Workbook



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Learning Objectives

At the conclusion of this training, participants will be able to:

- **Recognize** how the CMT guides the process of concussion management, from assessment to return to duty
- **Apply** the CMT to address acute concussion management
- **Determine** the appropriate comprehensive concussion management based upon service member symptom presentation
- **Select** the accurate ICD-10 codes for the encounter

Training Overview

- The CMT training is intended for military medical personnel, including medics, corpsmen, and health care providers who manage service members with a mild TBI, also known as concussion.
- The CMT is an overarching resource that references other DVBIC material, such as the Military Acute Concussion Evaluation 2 (MACE 2), Primary Care Manager Progressive Return to Activity (PCM PRA), Rehab PRA, and symptom based clinical recommendations available on the DVBIC website. This training will familiarize you with the CMT and its application.
- Prior knowledge: Learners should have already received training on the MACE 2 and PRA.

What to Expect Today

- Combination of large group and small group interactions
- Focus on CMT application and immediate relevance for your service members diagnosed with concussion

Initial Management: Clinical Case Scenario



A twenty-three-year-old male service member (SM) was playing football when he collided with a teammate and struck his head on the ground.



His last memory is of striking his head. His next clear memory is of others standing around him, asking if he was ok. His teammates stated that he was unconscious for about 30 seconds.

He attempted to get up on his own but stumbled sideways and required assistance off the field. He states he “saw stars” and felt dizzy for about five minutes.

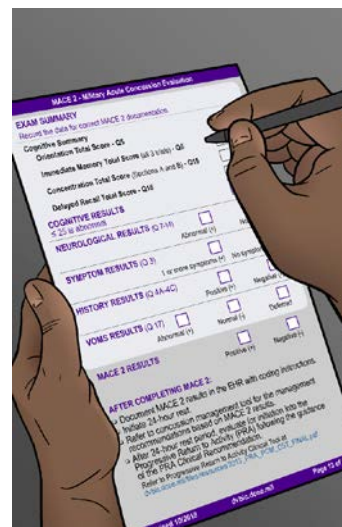
The patient had a headache, felt nauseated, and “out of it,” which prompted him to present to the medic about 30 minutes after the injury.

The medic performed the MACE 2 and instructed the patient to rest for 24 hours, then follow up the next day at sick call.

MACE 2 screening results from time of injury are summarized below:

Screen Results

- **Red flags:** negative
- **Observable signs:** witnessed loss of consciousness for 30 seconds, SM stumbled and was slow to get up
- **AOC or Memory:** SM reports feeling “dazed” and “out of it” for 5 minutes
- **Symptoms:** headache, dizziness, nausea, fatigue
- **Concussion history:** no prior concussions in the last 12 months
- **Headache history:** none



Question 1:

What four mandatory events require concussion evaluation?

Question 2:

Does the SM meet the criteria for concussion? What are the criteria for concussion?

The SM presents to your clinic today with the chief complaint of “concussion.” He complains of 5/10 headache and dizziness, intermittent nausea, fatigue, and says he feels “slow.”

Question 3:

Which clinical tool should you refer to next to guide your management?

Question 4:

How should you proceed through initial management for this patient?

The SM admits that he did not comply with the full 24-hour rest period yesterday and went back to work after his injury.

His symptoms are unchanged, with a 5/10 headache and dizziness, intermittent nausea (without vomiting), and states he feels tired and “slow.”

Question 5:

What could you consider doing next?



The patient demonstrates understanding and appreciation of your initial recommendations. However, he asks, “what do you mean exactly by rest?”

Question 6:

How would you respond?

The patient states that his headache is disturbing him and he is not sure how much he can rest. He asks if there is anything he can take to alleviate his headache and promote rest.

Question 7:

How will you address his symptoms as part of your initial concussion management?

A follow-up appointment is scheduled with you the next day.

The patient states that this time he was compliant with the 24-hour rest period, and his headache and dizziness have decreased to a 2/10.

His nausea slowly resolved by the time he went to bed last night, but he had difficulty sleeping. He still feels “slow.”

You repeat his MACE 2 exam, and it is still positive.



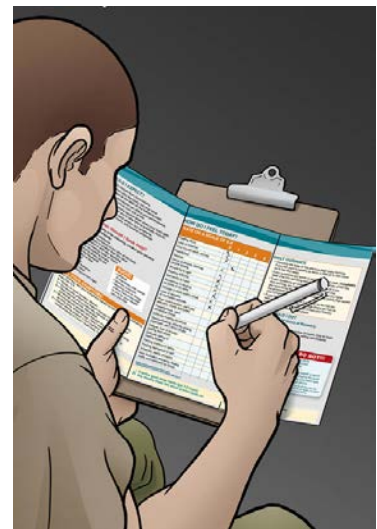
You are accompanied by a medical student, who asks you to elaborate on the reason for continuing the MACE 2 even after the concussion diagnosis has been established as positive.

Question 8:

How will you respond to the medical student’s question?

Question 9:

Considering the MACE 2 is still positive, what is the next step?



Question 10:

How often should the patient follow up with the PCM?

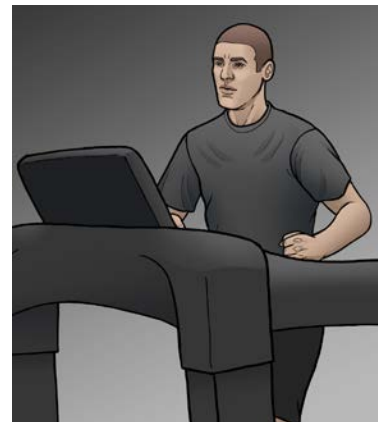
Question 11:

Since this is the patient's 1st concussion, when should the provider consider moving from the PCM to Rehab PRA?

The patient follows up with you on day 8 and has progressed through the PCM PRA process. He is asymptomatic at stage 6 after completing exertional testing and the Vestibular/Ocular-Motor Screening (VOMS) and feels ready to return to duty.

Question 12:

What should the PCM do at this time?



Comprehensive Management: Clinical Case Scenario

For this scenario we will use the same service member, but with a different progression through the initial management phase.

A twenty-three-year-old SM presents to your clinic after being diagnosed with a concussion. While playing football, two weeks ago, he collided with a teammate and struck his head on the ground. This was his first concussion in the last 12 months.

Some of his symptoms resolved spontaneously but his headache and dizziness have persisted. As per the CMT, his primary care manager initiated the PCM Progressive return to activity (PRA) process. However, the SM has not progressed on the PRA beyond Stage 4 and has been moving back and forth between Stage 3 (Light Activity) and Stage 4 (Moderate Activity).

Question 1:

What treatment approach should the PCM follow to treat this patient?

The SM is referred to a rehabilitation provider, who reviews relevant documentation (MACE 2, PCM PRA) with focus on symptom and activity progression, and repeats the MACE 2. The patient's symptoms of headache and dizziness have decreased from 5/10 to 3/10 over time. The SM does not have a history of prior concussions, headache disorders, or behavioral health concerns.

However, he had unsteady balance while performing the single leg stance and tandem gait exams. Also, near point convergence measurement of 8 cm was recorded (on all 3 trials) while administering the VOMS.



Question 2:

What should the rehabilitation provider do next to manage this patient?

The rehabilitation provider gives a brief overview of the Rehab PRA process and explains its importance to the SM. Although hesitant initially, the SM agrees to comply with the physician's recommendations.

Question 3:

Now that the Rehab PRA has been initiated, how should the rehabilitation provider manage the patient's symptoms?

Question 4:

How often should the SM follow-up with the rehabilitation provider?

The SM has been progressing through the rehab PRA slowly but steadily and is now at Stage 3. He is unable to progress to Stage 4. He has noted that reading makes his headache worse. Yesterday, he had to stop reading after 5 minutes.



Question 5:

As per the CMT, what can the rehabilitation provider do next?

The patient is seen and follows the treatment plan recommended by the neurologist. He has been following up with the rehabilitation provider every 2-3 days and has completed 24 hours in stage 5. He states that he is feeling much better and is ready to return to his duties.

Question 6:

What should the rehabilitation provider ensure, prior to releasing the patient to regular duty?

Question 7:

After clearing the SM for return to regular duty, the rehabilitation provider educates him regarding follow-up guidance. What should the rehabilitation provider do next?

Coding

Using the information below, what is the primary TBI diagnostic code for this patient at the initial visit?

Initial TBI Screening Code: Z13.850**TBI Coding Sequence:**

1. Primary TBI diagnostic code: S06. E L S E. Primary symptom code, if applicable: (e.g., H53.2 - diplopia)
3. Deployment status code, if applicable: (e.g., Z56.82 for deployed)
4. TBI external cause of morbidity code: (For example, Y36.290A [A- use for initial visit] for war operations involving other explosions and fragments, military personnel, initial encounter)
5. Place of occurrence code, if applicable
6. Activity code, if applicable
7. Personal history of TBI code: if applicable Z87.820

Key Takeaways

- CMT is the critical link for guiding initial and comprehensive management of concussion from assessment to return to duty
- Concussion management is driven by the number of concussions sustained in the last 12 months, progression of symptom clusters, and activity progression through the PRA
- Even if the concussion screen is negative, initiate 24 hour rest (mandatory if deployed)
- Before initiating concussion management, complete TCCC, MACE 2, and FDA cleared structural brain injury device or tool (if available)
- Education is the single most effective intervention, following acute mTBI, showing the greatest decrease in number and duration of symptoms
- Accurate coding is critical for resource allocation and surveillance

Learner Survey

1. Thinking about the training you just completed, please rate each statement using the rating scale:

| | | | | | |
|-------------------|----------|---------|-------|----------------|----|
| Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree | NA |
| 1 | 2 | 3 | 4 | 5 | NA |

| | | | | | | |
|--|---|---|---|---|---|----|
| The CMT training increased my skills in initial and comprehensive concussion management. | 1 | 2 | 3 | 4 | 5 | NA |
| I feel confident that I have the skills to immediately apply what I learned. | 1 | 2 | 3 | 4 | 5 | NA |
| The training I received increased the likelihood that I would use the CMT. | 1 | 2 | 3 | 4 | 5 | NA |
| I was given adequate opportunity to practice what I was learning. | 1 | 2 | 3 | 4 | 5 | NA |
| The practice activities aided in my learning. | 1 | 2 | 3 | 4 | 5 | NA |
| I was comfortable with the pace of the training. | 1 | 2 | 3 | 4 | 5 | NA |
| My expectations for this training were met. | 1 | 2 | 3 | 4 | 5 | NA |

2. What additional training information (format, length, more case studies, etc.) would you need to be confident using the CMT?

3. Thinking about the facilitator's effectiveness, please rate using the following scale:

| | | | | |
|------------------|-------------|---------|-----------|----------------|
| Very Unsatisfied | Unsatisfied | Neutral | Satisfied | Very Satisfied |
| 1 | 2 | 3 | 4 | 5 |

| | | | | | |
|--------------------------------|---|---|---|---|---|
| Delivery was clear and concise | 1 | 2 | 3 | 4 | 5 |
| Responsiveness to participants | 1 | 2 | 3 | 4 | 5 |
| Knowledge of subject matter | 1 | 2 | 3 | 4 | 5 |