Module A: Initial Presentation (>7 Days Post-Injury)

1. Person exposed to an external force to the head resulting in any of the following:
   - Alteration or loss of consciousness
   - Post-traumatic amnesia

2. Urgent/emergent conditions identified? (see Sidebar 1)
   - Yes
   - No

3. Refer for emergency evaluation and treatment

4. Evaluate for severity of TBI based on history (see Sidebar 2)

5. Is the severity moderate or severe TBI?
   - Yes
   - No

6. Consult with a clinician with TBI experience

7. Diagnosis of mTBI: Are symptoms present? (see Sidebar 3)
   - Yes
   - No

8. Is person currently deployed on military or combat operation?
   - Yes
   - No

9. Follow DoD policy guidance for management of mTBI in the deployed setting

10. Go to Module B, Box 12

Sidebar 1: Potential Indicators for Immediate Referral
- Declining level of consciousness
- Declining neurological exam/local neurological symptoms
- Pupillary asymmetry
- Seizures
- Repeated vomiting
- Motor or sensory deficits
- Double vision
- Worsening headache
- Slurred speech
- Marked change in behavior or orientation

Sidebar 2: Classification of TBI Severity

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Mild</th>
<th>Moderate</th>
<th>Severe</th>
</tr>
</thead>
<tbody>
<tr>
<td>Structural imaging (see Recommendation 4)</td>
<td>Normal&lt;br&gt;a</td>
<td>Normal or abnormal</td>
<td>Normal or abnormal</td>
</tr>
<tr>
<td>Loss of Consciousness</td>
<td>0-30 min</td>
<td>&gt;30 min and &lt;24 hours</td>
<td>&gt;24 hours</td>
</tr>
<tr>
<td>Alteration of consciousness/mental state</td>
<td>up to 24 hours</td>
<td>&gt;24 hours: severity based on other criteria</td>
<td></td>
</tr>
<tr>
<td>Post-traumatic amnesia</td>
<td>0-1 day</td>
<td>&gt;1 and &lt;7 days</td>
<td>&gt;7 days</td>
</tr>
<tr>
<td>Glasgow Coma Scale (best available score in first 24 hours)</td>
<td>13-15</td>
<td>9-12</td>
<td>&lt;9</td>
</tr>
</tbody>
</table>

a. If patient meets criteria in more than one category of severity, the higher severity level is assigned
b. No clinically relevant findings
c. Alteration of mental status must be immediately related to the trauma to the head; typical symptoms would be: looking and feeling dazed and uncertain of what is happening, confusion, difficulty thinking clearly or responding appropriately to mental status questions, and/or being unable to describe events immediately before or after the injury event
d. In April 2015, the DoD released a memorandum recommending against the use of Glasgow Coma Scale scores to diagnose TBI (see the memorandum for additional information: https://www.health.mil/Reference-Center/Policies/2015/04/06/Traumatic-Brain-Injury-Updated-Definition-and-Reporting)

Sidebar 3: Possible Post-Concussion Symptoms

<table>
<thead>
<tr>
<th>Physical Symptoms</th>
<th>Cognitive Symptoms</th>
<th>Behavior/Emotional Symptoms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Headache</td>
<td>Problems with:</td>
<td>Depression</td>
</tr>
<tr>
<td>Dizziness/vertigo</td>
<td>Attention</td>
<td>Anxiety</td>
</tr>
<tr>
<td>Balance problems</td>
<td>Concentration</td>
<td>Agitation</td>
</tr>
<tr>
<td>Nausea</td>
<td>Memory</td>
<td>Irritability</td>
</tr>
<tr>
<td>Fatigue</td>
<td>Speed of processing</td>
<td>Impulsivity</td>
</tr>
<tr>
<td>Sleep disturbance</td>
<td>Judgment</td>
<td>Aggression</td>
</tr>
<tr>
<td>Visual disturbance</td>
<td>Executive functions</td>
<td></td>
</tr>
<tr>
<td>Sensitivity to light</td>
<td>Speech and language</td>
<td></td>
</tr>
<tr>
<td>Hearing difficulties/loss</td>
<td>Visual-spatial function</td>
<td></td>
</tr>
<tr>
<td>Tinnitus</td>
<td>Problems with:</td>
<td>Depression</td>
</tr>
<tr>
<td>Sensitivity to noise</td>
<td>Attention</td>
<td>Anxiety</td>
</tr>
</tbody>
</table>

Abbreviations: CPG: clinical practice guideline; DoD: Department of Defense; mTBI: mild traumatic brain injury; NSI: Neurobehavioral Symptom Inventory; PTSD: posttraumatic stress disorder; RPCQ: Rivermead Post-Concussion Questionnaire; SUD: substance use disorder; TBI: traumatic brain injury; VA: Department of Veterans Affairs

Access to the full guideline and additional resources is available at the following link: https://www.healthquality.va.gov/guidelines/Rehab/mtbi/
Module B: Management of Symptoms Persisting >7 days After mTBI

Patient with persistent symptoms after mTBI (see Sidebar 3)

Complete history and physical examination, including symptom attributes, intimate partner violence, neurologic and mental status exams, psychosocial evaluation, and suicide risk (see Sidebars 3 and 4); assess patient priorities

Evaluate for other conditions including but not limited to chronic pain, sleep disorders, depression, PTSD, anxiety, and SUD (see Sidebar 5)

Develop and implement a patient-centered, individualized treatment plan for mTBI and other common co-occurring conditions by referring to recommendations from relevant VA/DoD CPGs (see Sidebar 5)

Educate patient/caregiver on symptoms and expected recovery (see Sidebar 6)

Are symptoms persistent and functionally limiting 30 days after mTBI despite symptom-based treatment?

Yes

Initiate further symptom-based treatment (see Recommendations 10-16)

Consider consult and collaboration with a clinician with TBI experience

Has treatment plan been completed?

Yes

Consider case management with ongoing symptom-based primary care (see Sidebar 7)

No

No

Continue management as appropriate

Monitor for comorbid conditions

Address:
  • Return to work/duty/activity
  • Community participation
  • Family/social issues

Sidebar 4: Symptom Attributes

• Duration, onset, and location of symptom
• Previous episodes, treatment and response
• Patient perception of symptom
• Impact on functioning
• Factors that exacerbate or alleviate symptoms

Sidebar 6: Early Intervention

• Integrate patient and caregiver needs and preferences into assessment and treatment
• Provide information and education on symptoms and expected recovery
• Provide reassurance on expectation of positive recovery
• Educate about prevention of further injury
• Empower patient for self-management
• Consider teaching relaxation and stress management techniques as needed
• Recommend limiting use of caffeine/nicotine/alcohol
• Educate about prevention of further injury
• Empower patient for self-management
• Consider teaching relaxation and stress management techniques as needed
• Recommend limiting use of caffeine/nicotine/alcohol
• Encourage monitored progressive return to normal duty/work/activity/exercise
• Discuss need for consistency with healthy nutrition, exercise, and sleep habits
• Provide information regarding the National Suicide Prevention Lifeline (1-800-273-8255) if appropriate

Provider resources for progressive return to activity (PRA) are available at: https://www.health.mil/About-MHS/ODS/Health-Agency/Research-and-Development/Traumatic-Brain-Injury-Center-of-Excellence/Provider-Resources

Sidebar 5: Relevant VA/DoD CPGs

• VA/DoD Clinical Practice Guideline for the Management of Chronic Insomnia Disorder and Obstructive Sleep Apnea. Available at: https://www.healthquality.va.gov/guidelines/CD/Insomnia/index.asp
• VA/DoD Clinical Practice Guideline for the Management of Major Depressive Disorder. Available at: https://www.healthquality.va.gov/guidelines/MH/mdd/
• VA/DoD Clinical Practice Guideline for the Management of Opioid Therapy for Chronic Pain. Available at: https://www.healthquality.va.gov/guidelines/Pain/otc/
• VA/DoD Clinical Practice Guideline for the Management of Substance Use Disorders. Available at: https://www.healthquality.va.gov/guidelines/MH/sud/
• VA/DoD Clinical Practice Guideline for the Primary Care Management of Headache. Available at: https://www.healthquality.va.gov/guidelines/Pain/headache/
• VA/DoD Clinical Practice Guideline for the Management of Chronic Multisymptom Illness. Available at: https://www.healthquality.va.gov/guidelines/MH/cmi/
• VA/DoD Clinical Practice Guideline for the Assessment and Management of Patients at Risk for Suicide. Available at: https://www.healthquality.va.gov/guidelines/MH/srb/

Sidebar 7: Case Management

Case managers may:
• Provide coordination of care as outlined in the individualized treatment plan (referrals, authorizations, appointments/reminders)
• Provide advocacy and support for Veteran/Service Member and caregivers
• Reinforce early interventions and education
• Address psychosocial issues (financial, family, housing, or school/work)
• Connect patient to available resources

Sidebar 3

Are symptoms persistent and functionally limiting 30 days after mTBI despite symptom-based treatment?

§ Continue management as appropriate
§ Monitor for comorbid conditions
§ Address:
  • Return to work/duty/activity
  • Community participation
  • Family/social issues

Sidebar 3

Patient with persistent symptoms after mTBI (see Sidebar 3)