

**Excerpt from Slide Script for 30-45 Minute Presentation on Mild Traumatic Brain Injury  
Presentation for Primary Care Physicians**

**(Note: The client produced the “fancy slides. I wrote what was to appear on them. There was a reference page, which does not appear here, though the citation numbers do.)**

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| <p><b>INTRO SLIDE 1</b><br/><b>Mild Traumatic Brain Injury</b><br/>A Presentation by the<br/>American Academy of Physical Medicine and<br/>Rehabilitation</p>   | <p>(slide can be in place while audience is<br/>gathering)</p>  |
| <p><b>SLIDE 2</b><br/><b>Goals of Presentation</b></p> <ul style="list-style-type: none"><li>• Provide key information on MTBI</li><li>• Identify assessment/treatment methods for impairments resulting from MTBI</li><li>• Identify treatment methods for functional disabilities resulting from MTBI</li><li>• Describe roles of PCP, PM&amp;R, and other specialists</li><li>• Provide information leading to standardized treatment of impairments secondary to MTBI</li></ul> | <p>Mild traumatic brain injury – MTBI – is commonly called “concussion.” The incidence of MTBI is high and the condition is well documented. However, a lack of consensus on definitional issues both across specialties and within the historical literature makes diagnosis more difficult. As a result, under-diagnosis or misdiagnosis of the condition and its sequelae – which can be cognitive, behavioral, and/or somatic – is relatively common.</p> <p>Because there can be physical, mental, and emotional ramifications, optimum MTBI treatment often depends upon interdisciplinary teamwork, where specialists contribute what they do best to complement the overall care provided by the primary care physician. Depending on the handicaps that result from MTBI, treatments might be medical, psychosocial, and/or rehabilitative.</p> <p>Today I’d like to share with you some key information on MTBI; identify assessment and treatment methods for resultant handicaps; and tell you about ways in which Physical Medicine and Rehabilitation specialists – physiatrists – can contribute to the total MTBI treatment plan for successful rehabilitation.</p> |

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| <p><b>SECTION SPACER SLIDE 3</b></p> <p><b>BACKGROUND</b></p> <p><b>SLIDE 4</b></p> <p><b>Definition of MTBI</b><br/> A traumatically induced physiological disruption of brain function with at least 1 of following:</p> <ul style="list-style-type: none"> <li>• Loss of consciousness (LOC)<sup>1</sup></li> <li>• Loss of memory of events immediately before/after injury</li> <li>• Altered mental status at the time of injury</li> <li>• Focal neurological deficits</li> </ul> <p><b>SLIDE 5</b></p> <p><b>Definition of MTBI continued<sup>2</sup></b><br/> <b>Injury Criteria</b></p> <ul style="list-style-type: none"> <li>• LOC ≤ 30 minutes</li> <li>• GCS score 13-15 after 30 min.</li> <li>• post-traumatic amnesia ≤ 24 hrs.</li> </ul> | <p>We're going to start with some background information to help identify the scope and variety of problems associated with MTBI.</p> <p>This is the definition of MTBI that is recommended by both the American Congress of Rehabilitation Medicine and the Brain Injury Association: a traumatically induced physiological disruption of brain function accompanied by any of the following — loss of consciousness, loss of memory of events immediately before or after injury, alteration in mental state, and focal neurological deficits. We should note that the patient does not have to lose consciousness or receive a direct impact to the skull to incur an MTBI. By “alteration in mental state,” we mean the patient may appear dazed, confused, and/or disoriented at the time of injury. Focal neurological deficits may be present, but they may be transient.</p> <p>For the traumatic brain injury to be classified as “mild,” the patient’s loss of consciousness – if any – cannot persist for more than 30 minutes; the patient’s initial Glasgow Coma Score must be 13 or lower after 30 minutes; and the patient’s post-traumatic amnesia must not persist for longer than 24 hours. These parameters are important to differentiate MTBI from more serious injury. Note that loss of consciousness is not necessary for MTBI to have occurred.</p> <p>Unfortunately, neither this, nor any other definition, is universally accepted. However, while there are no uniformly accepted diagnostic criteria, it is safe to say that if there is no change in neurological status at the time of injury, there is no MTBI. Consensus on prognostic markers is lacking as well, but preinjury vulnerability and non-injury sequelae may influence recovery.</p> |
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| <p><b>SLIDE 6</b></p> <p><b>Exclusions to MTBI Definition</b></p> <ul style="list-style-type: none"> <li>• Stroke</li> <li>• Anoxia</li> <li>• Tumor</li> <li>• Encephalitis</li> <li>• Seizure in absence of MTBI</li> </ul>  | <p>The conditions listed on this slide — stroke, anoxia, tumor, encephalitis, and seizure in absence of MTBI — are excluded from the definition of MTBI.</p>  |
| <p><b>SLIDE 7</b></p> <p><b>Incidence of MTBI in U.S.</b></p> <ul style="list-style-type: none"> <li>• 500,000 hospitalizations/year<sup>3</sup></li> <li>• Est. 1.5M yearly occurrences of transient LOC not resulting in hospitalization<sup>4</sup></li> <li>• MTBI = 80% of all hospitalizations/ER visits for TBI<sup>5</sup></li> </ul>  | <p>As you can see, MTBI accounts for the vast majority of hospitalizations and ER visits for traumatic brain injury, as well as a half million hospitalizations per year.</p>   |
| <p><b>SLIDE 8</b></p> <p><b>Incidence of MTBI in U.S.</b></p> <ul style="list-style-type: none"> <li>• 15% of MTBI patients still have disabling symptoms after 1 yr.<sup>6</sup></li> <li>• 20%-40% of MTBI patients do not seek medical care<sup>7</sup></li> </ul>  | <p>According to some authorities, 15% percent of MTBI patients continue to have symptoms that may or may not be functionally significant after one year. That is, they may continue to have presumptive impairments and/or functional disability-related issues secondary to their original brain injury. These numbers don't reflect that up to 40% of MTBI cases go unreported because patients do not seek medical treatment. Underreporting limits epidemiological data, as does a lack of MTBI registries. As a result, studies are not always representative of the total population.</p> |
| <p><b>SLIDE 9</b></p> <p><b>Principal Causes of MTBI</b></p> <ul style="list-style-type: none"> <li>• Motor vehicle accidents <ul style="list-style-type: none"> <li>– males aged 14-24 most often victims<sup>8</sup></li> <li>– alcohol use often implicated in accident</li> </ul> </li> <li>• Sports or other recreational injuries</li> <li>• Intentional trauma (assault)</li> </ul> | <p>Motor vehicle accidents are the principal cause of MTBI, followed by sports injuries and intentional trauma, in that order. Teenagers and young adult males are the most frequent victims. In many cases, alcohol use plays a role in the circumstances of the injury.</p>   |