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**Group:**

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**Pathology Question:**

What is Traumatic Brain Injury?

**Report:**

Traumatic Brain Injury

Traumatic Brain Injury, or TBI, is a condition that involves many different factors and has had many different definitions over the years. One research group defines TBI as “an alteration in brain function, or other evidence of brain pathology, caused by an external force.” No matter whose definition it is, TBI always involves trauma that causes the brain to malfunction.

TBI occurs when at least one of a number of criteria occur. TBI can involve a loss of consciousness or any change of mental state at the time of an injury. It can also involve loss of memory around the time of the event and neurologic changes such as general weakness or sensory loss. These symptoms classically occur around the time of the injury, but they can also be delayed. Traumatic brain injury can also be diagnosed by visual or radiologic evidence of changes in the brain, such as can be seen in an MRI. Of course, there are other diseases or other causes of changes in the brain that could lead to similar symptoms as TBI. To be considered a traumatic brain injury therefore, the head must be hit by an object, be subject to accelerating/decelerating movement, or be subject to other forces. In other words, there must be an event causing a head injury. However, a head injury does not always cause a traumatic brain injury. There must be damage to the brain, not only the scalp or skull.

TBI can also lead to difficulties in maintaining oral hygiene, as we are talking about today. In the dental setting, traumatic brain injury in patients can definitely affect treatment. TBI often leads to behavioral difficulties or cognitive impairments that can make it extremely difficult for the patient to understand or follow directions. This leads to challenges in care as well as delivery of OHI. Oftentimes a caregiver helps the patient with daily tasks. TBI can also lead to positional difficulties in the dental office. The patient with TBI might have difficulty staying still in one position for an appointment due to spasticity, rigidity, or pain related to their injury. Finally, patients with traumatic brain injury are often taking medications to help treat their symptoms. All of this must be taken into consideration by the dental provider.

Traumatic brain injury is a very important condition to understand, as it affects 1.7 million people in the United States each year and contributes to almost 33% of all injury-related deaths. TBI can increase the risk of developing brain disorders later on in life, such as Alzheimer’s disease and Parkinson’s disease. Because the brain is crucial to almost every function of the body, there are a wide range of consequences resulting from injury to the brain.

**References:**

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