

# **Concussion & Traumatic Brain Injury**

## **10 CE Credits**

Instructors

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This 10-hour course covers how to understand traumatic brain injury in concussion. When there is a head injury inclusive of direct trauma or coup-contrecoup type trauma the brain can sustain a myriad of injuries. The primary spine care provider must understand the signs and symptoms for early detection as this can have either pathological cognitive sequela or death at the most extreme. This course covers the clinical examination, advanced imaging and advanced neurodiagnostic testing to conclusively diagnose traumatic brain injuries and any necessary triage. Also, this program emphasizes the urgency of triage pending a clinical evaluation.

### Part 1: Traumatic Brain Injury and Concussion Overview – 2 Hours

This section is an in-depth overview of traumatic brain injury in concussion. It discusses that all brain injuries are traumatic and dispels the myth of a “mild traumatic brain injury.” Also, this covers triage protocols and the potential sequela of patients with traumatic brain injuries.

### Part 2: Head Trauma and Traumatic Brain Injury Part 1 - 2 Hours

This section discusses gross traumatic brain injuries from trauma and significant bleeding with both epidural and subdural hematomas. There are numerous case studies reviewed inclusive of neurosurgical intervention and postsurgical outcomes.

### Part 3: Head Trauma and Traumatic Brain Injury Part 2 - 2 Hours

This section continues with multiple case studies of gross traumatic brain injuries from trauma requiring neurosurgical intervention and also discusses recovery sequela based upon the significance of brain trauma. This module also concludes with concussion protocols in traumatic brain injury short of demonstrable bleeding on advanced imaging.

### Part 4: Concussion And Electroencephalogram Testing - 2 Hours

This section covers concussion etiology and cognitive sequela where gross bleeding has not been identified on advanced imaging. It discusses the significance of electroencephalogram testing in determining brain function and pathology (if present). This module also covers the understanding of waveforms in electroencephalogram testing in both normal and abnormal scenarios.

### Part 5: Concussion And Electroencephalogram Testing Pathological Results - 2 Hours

This module covers amplitude, conduction and conduction delays as sequela to traumatic brain injury to diagnose concussion and traumatic brain injury in the absence of gross bleeding and advanced imaging. This section covers electroencephalograms and event-related potentials which measures the brain response that is a direct result of specific sensory or motor events. It is a stereotype electrophysiological response to a stimulus and provides a noninvasive means of evaluating brain function. In this module multiple case studies are discussed with ensuing triage protocols pending the results.