



The Emergency Department Management of Traumatic Brain Injury Patients

Learning Objectives

- Review the optimal clinical evaluation, diagnostic testing, and treatment of Emergency Department patients with head trauma and suspected traumatic brain injury.
- Discuss procedures and protocols that will assist the emergency physician in providing care to these critically ill and injured patients.

Background

One of the critical requirements of the emergency physician is to be able to efficiently diagnose and effectively treat patients who present to the Emergency Department with head trauma and suspected trauma brain injury (TBI). This lecture will highlight two specific skills that are part of this overall treatment strategy, the management of increased intracranial pressure (ICP) and the ability to provide skull trephination in the rare circumstance in which there is clinical deterioration of the TBI patient and suspected uncal or brainstem deterioration.

In this Brain Injury Course, FERNE would like to stress the use of specific procedures and protocols in managing patients with neurological illness and injury. In effect, the goal is to take a surgeon's approach to treating medical problems in the Emergency Department, including complications related to TBI.

Key Clinical Questions

- What are the clinical signs and symptoms of increased ICP?
- How should patients with suspected increased ICP in the setting of TBI be managed?
- What are the roles for the following therapies in the setting of suspected increased ICP: lasix, mannitol, hyperventilation, steroids, anti-epileptic drugs, fluid infusions, pressors, intracranial pressure monitoring, and skull trephination?

Featured Procedures or Protocols

- Treatment protocol for the management of elevated intracranial pressure (ICP).
- Skull trephination for the management of suspected uncal herniation due to an expanding epidural hematoma.

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