



# Brain Injury

## What is a brain injury?

- A traumatic brain injury (TBI) is any damage caused to the brain as a result of an external force accompanied by loss of consciousness, amnesia, skull fracture, and/or neurological examination findings.
- TBI is the most common cause of death and disability in adolescents and early adulthood.
- A non-traumatic brain injury can result from toxicity (drug overdose, environmental exposure, carbon-monoxide poisoning, etc.), oxygen deprivation (cardiopulmonary arrest, near-drowning, etc.), infections, genetic conditions, chronic epilepsy, and neurodegenerative diseases such as dementia.

## Symptoms

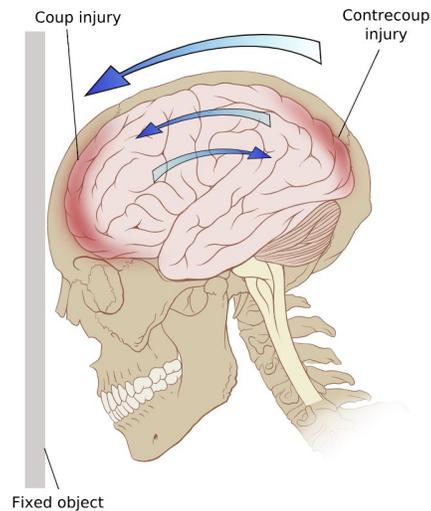
- *Mild TBI*  
(less than 1 hour of unconsciousness following injury): Headache, vomiting/nausea, fatigue, decreased balance, difficulty sleeping, blurred vision, sensitivity to light, problems with speech, anxiety, and/or decreased concentration problems
- Moderate to severe TBI  
(loss of consciousness for more than 1 hour): Persistent headache, repeated nausea/vomiting, seizures, dilated pupils, decreased coordination, unable to be woken from sleep, decreased strength and sensation in toes and fingers, body fluids draining from nose and/or ears, confusion, agitation, slurred speech, and/or coma.

## Common Causes

- Motor Vehicle Accidents (MVA)
- Falls
- Sports Injuries
- Violence

## Risk Factors (vary by age)

- Age < 5: Falls, MVA, violence
- Ages 5-15: Bicycles, skateboards, and horses
- Ages 15-40: MVA and motorcycles
- Age >40: Violence and MVA
- Being male



## Complications

- Vary based on the area of the brain impacted and severity of injury
- Communication Problems
- Intellectual problems
- Behavioral Changes
- Emotional Changes
- Sensory changes
- Physical complications

## Diagnosis

- Need to be assessed promptly by a physician
- Glasgow Coma Scale
- Injury related information
- Imaging Tests

## Treatment

- Intracranial pressure monitor
- Medications
- Surgery
- Rehabilitation
  - Occupational Therapy to improve independence in daily activities, functional endurance, visual deficits, and cognitive status, and provide caregiver education, strategies, and community support
  - Physical Therapy to improve strength, balance, and walking
  - Speech Therapy to improve communication skills and communication devices