

For More Information

North American Brain Injury Society
www.nabis.org (703)960-6500

National Association of State Head Injury Administrators
www.nashia.org (301) 656-3500

Brain Injury Association of America
www.biausa.org (800) 444-6443

Defense and Veterans Brain Injury Center
www.dvbic.org (800)870-9244

Brain Injury Services, Inc
8136 Old Keene Mill Road
Springfield, VA 22152
www.braininjurysvcs.org

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Articles in this newsletter are not a substitute for the care and advice of medical professionals. When you have a question or need medical advice, diagnosis or treatment, consult your physician.

This newsletter is produced by Inova Health System in conjunction with your faith community. If you prefer not to receive this newsletter, please notify the appropriate personnel in your faith community.

Inova Health System is a not-for-profit health care system based in Northern Virginia that consists of hospitals and other health services including emergency and urgent care centers, home care, nursing homes, mental health, blood donor services, and wellness classes. Governed by a voluntary board of community members, Inova's mission is to improve the health of the diverse community we serve through excellence in patient care, education and research.

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For Your Health

Understanding Brain Injuries

Every 23 seconds, a person in the United States sustains a traumatic brain injury. An estimated 3.17 million Americans currently live with disabilities resulting from traumatic brain injury.

A traumatic brain injury occurs when an outside force impacts the head hard enough to cause the brain to move within the skull or if the force causes the skull to break and directly hurts the brain.

A direct blow to the head can be great enough to injure the brain inside the skull, and can also break the skull and directly hurt the brain. Traumatic brain injury can occur from motor vehicle crashes, firearms, falls, sports, and physical violence such as hitting or striking someone with an object. Many cases of domestic violence and Shaken Baby Syndrome sadly result in brain injuries.

Also, a rapid acceleration and deceleration of the head can force the brain to move back and forth across the inside of the skull. Many roller coasters are being reviewed as harmful causes of brain injury.

If you know someone who has experienced a brain injury, it is best to encourage the injured person to seek medical attention immediately.

Many people with brain injuries often experience subtle changes to their personality, which can be the hardest for the family and friends to cope, support and understand.

Brain injuries are so often misdiagnosed or undiagnosed and we want to help the community recognize people who may have had a brain injury and could benefit from programs and free resources.

Knowledge is Power!

A Healthy Brain

The brain is enclosed inside the skull and the skull acts as a protective covering for the soft brain. The brain is made of neurons (nerve cells) that form tracts that route throughout the brain. These nerve tracts carry messages to various parts of the brain, which the brain uses to perform functions (breathing, heart rate, body temperature, metabolism, thought processing, body movements, personality, behavior, our vision, hearing, taste, smell, touch). Each part of the brain serves specific function and links with other parts of the brain to form more complex functions.

An Injured Brain

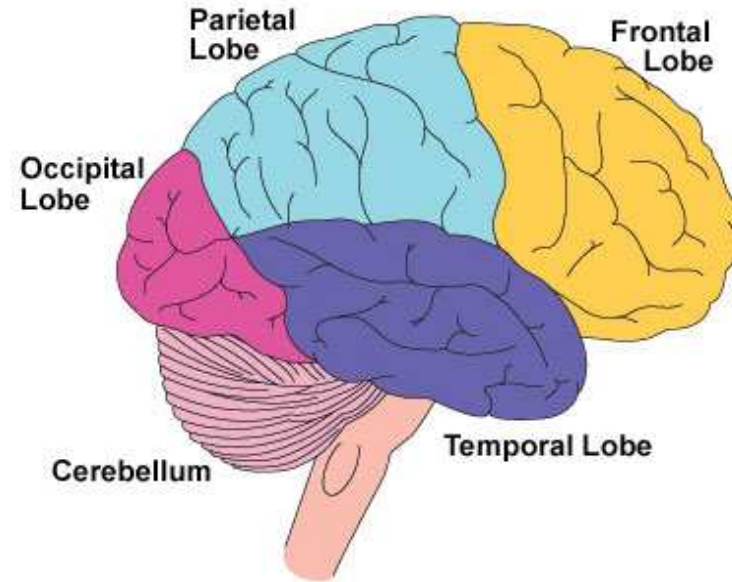
When a brain injury happens, the functions of the neurons, nerve tracts, or sections of the brain can be affected. If the neurons and nerve tracts are affected, they can have difficulty carrying the messages that tell the brain what to do. This can change the way a person thinks, acts, feels and moves the body. Brain injury can also change the complex internal functions of the body, such as regulating body temperature, blood pressure, bowel and bladder control. These changes can be temporary or permanent.

Acquired brain injury takes place at the cellular level within the brain therefore, injury from acquired brain injury can effect cells throughout the entire brain, instead of just in specific areas as with traumatic brain injury. An acquired brain injury is not hereditary, congenital, degenerative or induced by birth trauma. An acquired brain injury is an injury to the brain that has occurred after birth.

Some common causes of acquired brain injury, but are not limited to:

- Airway obstruction, trauma to head and/or neck
- Near drowning, throat swelling, choking, strangulation,
- Electrical shock or lightening strike,
- Heart attack, stroke, infectious disease, metabolic disorders, meningitis, certain venereal diseases, insect carried disease, toxic exposure to chemicals and gases such as carbon monoxide.

The Parts of the Brain



Symptoms

A wide variety of symptoms can occur after "brain injury". The nature of the symptoms depends on where the brain has been injured. Below is a list of possible physical and cognitive symptoms which can arise from frontal lobe brain injury symptoms:

- Loss of simple movement of various body parts (paralysis)
- Inability to plan a sequence of complex movements needed to complete multi-stepped tasks, such as making coffee (sequencing)
- Loss of spontaneity in interacting with others
- Loss of flexibility in thinking
- Persistence of a single thought (perseveration)
- Inability to focus on task (attending)
- Mood changes (emotionally labile)
- Changes in social behavior and changes in personality
- Difficulty with problem solving
- Inability to express language (Broca's aphasia)