Glossary of Brain Injury Terms

The Brain Injury Association of Virginia has developed this list of commonly used terms to help individuals and family members better understand brain-injury related terms. *To make your search easier, press Command + F to find a specific term you are interested in learning more about.*

Absence Seizures – A generalized seizure where a person may appear to be staring into space with or without jerking or twitching movements of the eye muscles. These seizures may last for seconds, or even longer, with full recovery of consciousness and no confusion. People experiencing absence seizures sometimes move from one location to another without any apparent purpose.

Abstract Thinking – Being able to apply non-concrete concepts to new situations and surroundings.

Activities of Daily Living (or ADLs) – Examples include eating, walking, dressing, bathing, toileting etc.

Amnesia – A loss of memory. Amnesia can be caused by brain injury, shock, fatigue, repression, illness, and sometimes anesthesia.

Angiogram – A procedure in which a dye is injected through a thin tube into a blood vessel. Special x-ray pictures are taken, allowing your healthcare provider to view the blood vessels of the brain, heart, or another part of the body. The same procedure is called an arteriogram when looking at arteries or a venogram for veins.

Anosmia – The decrease or loss of the sense of smell.

Anoxic Brain Injury – Injury to the brain due to severe lack of oxygen. This can happen when blood is unable to flow to the brain due to certain injuries, strangulation, choking, bleeding, or cardiac arrest.

Aphasia – The loss of speech and/or a decrease in the understanding or expression of language.

Apraxia – The loss or impairment of the ability to perform complex coordinated movements even if they have the desire and the physical ability to perform the movements.

Ataxia – The inability to coordinate the movement of muscles. Ataxia may affect the fingers, hands, arms, legs, body, speech, or eye movements.

Autonomic storming – Increased blood pressure with abnormal rapid heart rate, breathing, muscle tone, body temperature, and sweating.

Axons – Also known as nerve fibers, an axon is a long, slender projection of a nerve cell, or neuron that conducts electrical impulses away from the neuron's cell body. Axons are the primary transmission lines of the nervous system.

Basal Ganglia – The deep brain structures that help start and control voluntary movements and postures.

Brainstem – The lower extension of the brain where it connects to the spinal cord. Neurological functions located in the brainstem include those necessary for survival (breathing, heart rate) and for arousal (being awake and alert).

Catheter – Flexible tube to collect and monitor urine.

Cerebellum – The portion of the brain (located in the back) that helps coordinate movement.

Cerebrum – The largest part of the brain. It is divided into two hemispheres, or halves. It controls motor, sensory, and higher mental functions, such as thought, reason, emotion, and memory.

Chronic Subdural Hematoma – An "old" collection of blood and blood breakdown products between the surface of the brain and its outermost covering (the dura).

Closed Head Injury – Injury to structures within the skull or the brain that do not result in an opening in the skull, such as a direct blow to the head or a blast. Injuries may range from a mild concussion to potentially fatal.

Coma – A state of unconsciousness in which the person is not aware of the environment, does not respond to external stimuli such as pain or light and cannot perform voluntary actions. Coma generally lasts a few days or weeks after which the person may regain consciousness, die, or move into a vegetative state.

Computed Tomography Scan (CT or CAT scan) – Diagnostic imaging procedure using X-rays and computers to show detailed images of the body. The computer can combine individual images to produce a three-dimensional view.

Concussion – A mild injury to the brain caused by trauma. This type of brain injury can cause mild symptoms like headaches, dizziness, attention issues, trouble with sleep, etc., but can still affect an individual for months or in rare cases, years, after the injury.

Contusion – Bruising when small blood vessels get torn and leak blood under the skin.

Coup-Contrecoup – A two-part blow to the head in which bruising occurs at the site of injury (coup) and the site directly opposite (contrecoup) as the brain hits the skull. This is also known as an acceleration/deceleration injury.

Craniotomy – Medical procedure where the skull is opened to relieve pressure inside the brain.

Cranium – Another word for "skull."

Deep Vein Thrombosis (DVT) – A blood clot that forms in a vein deep in the body.

Axonal Stretching or Diffuse Axonal Injury (DAI) – Tearing of brain tissues resulting in cell death.

Diffuse Axonal Injury (DAI) – One of the most common types of brain injuries where there is widespread damage to the brain's white matter, which is composed of bundles of axons. DAI usually results from rotational forces (twisting) or sudden forceful stopping that stretches or tears these axon bundles. DAI can disrupt and break down communication among nerve cells (neurons) in the brain. It also leads to the release of brain chemicals that can cause further damage. Brain damage may be temporary or permanent and recovery can be prolonged.

Dura Mater – The outermost of three membranes protecting the brain and spinal cord. It is tough and leather-like.

Dysarthria – Difficulty in forming words or speaking them because of weakness of the muscles used in speaking. Tongue movements are usually labored and the rate of speaking may be very slow; drooling may occur.

Dyskinesia – Involuntary movements most often seen in the arms or legs.

Electroencephalogram (EEG) – A procedure that records the brain's continuous, electrical activity by means of electrodes attached to the scalp.

Epidural Hematoma – Bleeding into the area between the skull and the dura mater.

Executive Functions – The ability to formulate and carry out plans effectively. These functions are essential for independent, creative, and socially constructive behavior.

Expressive Aphasia – Also known as Broca's aphasia. A difficulty in expressing oneself in speech and writing. Characterized by knowing what one wants to say but being unable to find the words to say what is being thought. There is lack of spontaneous speech, words are often labored over, and sentences are short and incomplete.

Focal Brain Injury – Damage confined to a small area of the brain. The focal damage is most often at the point where the head hits an object or where an object, such as a bullet, enters the brain.

Frontal Lobe – The front part of the brain, which is involved in planning, organizing, problem solving, selective attention, impulse control, personality, and a variety of "higher cognitive functions."

Generalized Tonic-Clonic Seizures – A seizure involving the entire body. It is also called a grand mal seizure. Such seizures usually involve muscle rigidity, violent muscle contractions, and loss of consciousness.

Glasgow Coma Scale – A scale used for measuring level of consciousness. Scoring is determined by three factors: eye opening ability, verbal responsiveness, and motor responsiveness. The scores range from lowest level of responsiveness (3) to highest level of responsiveness (15). This scale is used as an initial evaluation tool.

Hematoma – A collection of blood caused by the rupture or tearing of blood vessels.

Herniation/Herniated – Compression of brain tissue caused by high pressure inside the skull that can lead to death if not aggressively treated.

Hydrocephalus – A blockage or disruption of fluid flow from the spinal cord and brain, increasing pressure requiring a procedure to relieve it.

Hypoxic Brain Injury – Decreased oxygen levels in the brain.

Impaired Initiation – The diminished ability to take the first step in beginning an action.

Incontinence – The loss of bowel/bladder control including leaks, intense urge, or not emptying.

Intracerebral Hemorrhage – A subtype of intracranial hemorrhage that occurs within the brain tissue itself. Intracerebral hemorrhage can be caused by brain trauma, or it can occur spontaneously in hemorrhagic stroke.

Increased Intracranial Pressure – Usually caused by brain swelling inside the confined area of the skull as a result of the injury. This pressure can damage brain tissue and can prevent blood flow to the brain, depriving it of the oxygen it needs to function.

Limbic System – A group of structures deep within the brain that are associated with emotion and motivation.

Lobe – A part of the brain located in each of the two hemispheres. Each hemisphere of the cerebrum is divided into four sections known as the frontal lobe, the parietal lobe, the occipital lobe, and the temporal lobe.

Magnetic Resonance Imaging (MRI) – A diagnostic procedure that uses a powerful magnet linked to a computer to make detailed pictures of soft tissues inside the body.

Meninges – The covering of the brain that consists of three layers: the dura mater, the arachnoid mater, and the pia mater. The primary function of the meninges and of the cerebrospinal fluid is to protect the central nervous system.

Mild Traumatic Brain Injury (mTBI) – Often called a concussion, mTBI involves a disruption of brain function caused by trauma. These types of brain injuries are often caused by sports, falls, car accidents, assaults, strangulation, domestic violence, and more.

Nasogastric (NG) Tube – Delivers medication and nutrients into the stomach.

Neurocognitive – Of, relating to, or involving the brain and the ability to think, remember, or process thoughts.

Neuron – A nerve cell that can receive and send information by way of connections with other nerve cells.

Neuroplasticity – The change in neural pathways and synapses that occurs due to certain factors, like behavior, environment, or neural processes.

Neuropsychology – A science that combines the study of the brain's structures and functions with psychological processes and human behaviors.

Neuroradiological Tests – Tests using computer-assisted brain scans. These tests allow providers to visualize the brain. Tests may include: CT Scan, MRI, Angiogram, EEG, SPECT Scan, PET Scan, DTI Scan.

Neurotransmitters – Chemicals found within the brain that are released from a neuron which transmit signals from neuron to neuron across gaps called synapses. These chemicals either excite or inhibit specific reactions; e.g., in motor neurons, the neurotransmitter causes contraction of muscles through stimulation of muscle fibers.

Nystagmus – Involuntary, usually rapid movement of the eyeballs (side to side or up and down).

Occipital Lobe – The occipital lobe is found at the back of the brain. This lobe receives signals from the eyes, processes those signals, allows people to understand what they are seeing, and influences how people process colors and shapes.

Open Head Injury – Trauma to the brain that occurs from a skull fracture or penetrating injury.

Parietal Lobe – The part of the brain that is involved with movement, and with the processing of signals received from other areas of the brain such as vision, hearing, motor, sensory, and memory.

Perseveration – The repeated and uncontrollable use of the same words or actions regardless of the situation.

Photophobia – An intolerance to light or a painful sensitivity to strong light.

Positron Emission Tomography (PET) Scan – A specialized imaging technique that uses an injection of a short-lived radioactive substance and special CT scans. PET scanning provides information about the body's chemistry not available through other procedures. Unlike other imaging techniques that look at structures of the brain, PET looks at the energy use of different parts of the brain.

Post-Traumatic Amnesia (PTA) – Usually, but not always, occurs after a period of unconsciousness when the injured person is conscious and awake, but is behaving or talking in a bizarre or uncharacteristic manner. The person has no continuous memory of day-to-day or recent events, so they are unable to remember what happened a few hours or even a few minutes ago. They usually have no memory of the injury and cannot recall the explanations they've been given. PTA is a stage of recovery and last for a few minutes, hours, days, weeks or even, in rare cases, months. How long it lasts can be an indication of the severity of the brain injury.

Post-Traumatic Stress (PTS) – Anxiety that can develop if you are exposed to or witness a traumatic event (like combat) that threatened or caused great physical harm to self or others.

Pressure Sores – Areas of damaged skin caused by staying in one position for too long (commonly form where bones are close to the skin).

Rancho Los Amigos Level of Cognitive Functioning – A scale used to follow the recovery of the TBI survivor and to determine when he or she is ready to begin a structured rehabilitation program.

Receptive Aphasia – Also known as Wernicke's aphasia, it is characterized by difficulty understanding spoken words. Aphasic individuals have difficulty interpreting and categorizing sounds, and speak in what is referred to as a "word salad" with random words put together unintelligibly to form sentences.

Seizure – Uncontrolled electrical activity in the brain, which may produce a physical convulsion, minor physical signs, thought disturbances, or a combination of symptoms. Seizures fall into two main groups. Focal seizures, also called partial seizures, happen in just one part of the brain. Generalized seizures are a result of abnormal activity throughout the entire brain.

Spasticity – Occurs when certain muscles are continuously contracted, causing stiffness or tightness that can interfere with normal movement, speech and gait. Can be painful.

Photon Emission Computed Tomography (SPECT) Scan – Test that uses the injection of a weak radioactive substance into a vein, followed by pictures taken with special cameras. This test is similar to a PET scan and provides information on the energy being used by the brain.

Single Photon Emission Computed Tomography (SPECT) – A nuclear imaging test that can be used to evaluate certain brain functions. As with a PET scan, a radioactive isotope, or tracer, is injected intravenously into the body. A SPECT scan may be ordered as a follow-up to an MRI to diagnose tumors, infections, brain regions involved in seizures, degenerative spine disease, and stress fractures.

Skull Fracture – A break, split, or crack in the skull.

Subdural Hematoma – Bleeding confined to the area between the outermost covering of the brain (dura) and the brain.

Temporal Lobe – Located at about ear level and the main memory center of the brain, contributing to both long-term and short-term memories. The temporal lobe is also involved with understanding what is heard and with the ability to speak. An area on the right side is involved in visual memory and helps people recognize objects and faces. An area on the left side is involved in verbal memory and helps people remember and understand language. The back area of the temporal lobe helps people interpret the emotions and reactions of others.

Thalamus – A part of the brain that is primarily responsible for relaying sensory information from other parts of the brain to the cerebral cortex.

Tinnitus – "Ringing in the ears" or another noise that seems to originate in the ears or head.

Traumatic Brain Injury (TBI) – An injury to the brain as the result of trauma to the head.

Ventilator – A machine to help breathe and receive oxygen with a tube placed through into the airway).

Whiplash – An injury to the neck caused when the head is violently thrown back and forth, such as in a rear end car collision.

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