

Glossary Terms for Acquired Brain Injury

A

Acquired Brain Injury (ABI): *This is any organic damage to the brain occurring after birth. ABI can have a number of causes including (but not limited too) trauma, stroke, degenerative diseases (like Alzheimer's, hypoxia and alcohol and other drugs*

ADHD: *Attention Deficit Hyperactivity Disorder usually manifests in childhood or adolescences and tends to linger throughout adulthood. Behaviours can include difficulty in maintaining attention, hypersensitivity to stimuli, incessant talking, impulsivity, incessant movement, ignoring or turning out, anxiety, frustration and irritability*

Adynamia: *Lack of motivation after trauma characterised by difficulty initiating activities or completing tasks. Gives the appearance of lethargy*

Affect: *Your experience of an emotion and the behaviour that arises from it*

Agnosia: *A disorder of recognition from injury to higher order information processing cells, which can result in an inability to recognise or distinguish faces or objects*

Agraphia: *Inability to write that can arise from damage to areas of the brain responsible for cognitive or motor skills necessary to write*

Acalculia: *Total or partial loss of the ability to perform even simple arithmetical calculations. This may rarely be a specific developmental disorder, but is more often acquired as a result of brain damage, usually to the PARIETAL LOBE, in the course of a STROKE*

Alexia (also known as acquired dyslexia): *Is a condition resulting from brain damage that causes the sufferer to be unable to read (when they had the ability to do so previously). Sometimes called visual aphasia, **alexia** is an acquired dyslexia and not developmental - the person had the ability to read before the brain damage caused the condition*

Alzheimer's disease: *Is the most common form of senile dementia. Difficulty with speaking - Difficulty speaking is a common symptom of **Alzheimer's Disease** and is often made worse by patients being unable to remember simple words or concentrate on what they are saying*

Ambiguous Loss: *Is a Loss which is ongoing and without resolution. It confuses families and freezes the grief process*

Amnesia: *Is the inability to recall past events. **Amnesia** can result from physical trauma (such as being in an accident and getting a blow to the head) or from psychological problems. One type of **amnesia**, dissociative **amnesia**, is the inability to recall events that results from psychological problems, specifically from too much stress*

Anosmia: *Is the inability to smell or have olfactory sensation. You can remember this by noting the prefix 'a' typically signifies the absence of something which is followed by 'nos' as in nose. Individuals suffering from **anosmia** can't sense odors*

Anoxia: *Occurs when oxygen is absent or depleted and unable to properly reach organs or tissue. **Anoxia** has been shown to cause brain damage that can have lasting consequences like amnesia. **Anoxia** typically refers to complete oxygen deprivation*

Aphasia: *Is an impairment of language, affecting the production or comprehension of speech and the ability to read or write. **Aphasia** is always due to injury to the brain-most commonly from a stroke, particularly in older individuals. But brain injuries resulting in **aphasia** may also arise from head trauma, from brain tumors, or from infections*

Apraxia: *Is a neurological condition in which a person has trouble making specific movements voluntary. There is no damage with the muscles themselves - the problem is in the brain*

Arterial line: *Is a monitoring system that uses an artery for access and consists of a catheter in the artery, pressure tubing, a transducer, and an electronic monitoring device. The most common uses of **arterial lines** are for monitoring of systemic blood pressure and obtaining **arterial** blood for analysis*

Asymptomatic: *You are considered **asymptomatic** if you: Have recovered from an illness or condition and no longer have symptoms Have an illness or condition (such as early stage high blood pressure or glaucoma) but do not have symptoms of it*

Ataxia: *Impairment of the ability to perform smoothly coordinated voluntary movements. This condition may affect the limbs, trunk, eyes, pharynx, larynx, and other structures. **Ataxia** may result from impaired sensory or motor function. Sensory **ataxia** may result from posterior column injury or PERIPHERAL NERVE DISEASES*

Autism: *People with autism have trouble with communication. They have trouble understanding what other people think and feel. This makes it hard for them to express themselves, either with words or through gestures, facial expressions, and touch*

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A

Autonomic nervous system (ANS):

Part of the peripheral **nervous system** responsible for regulating the activity of internal organs eg; Heart rate, digestion, respiratory rate, salivation. Perspiration etc

Axon: The part of a nerve cell or neuron that transfers a nerve impulse from the nerve cell body to a synapse with another cell. Depending on the location of the cell, the length of an **axon** can vary widely. In some cases (such as the **axons** that form the spinal cord), they may be several feet long

B

Blood Clot: Is a collection of solidified localized blood

Brain Stem: A **brain** structure located at the top of the **brain stem** that coordinates the **brain's** instructions for skilled, repetitive movements and helps maintain balance and posture

Burr hole: This is a hole made through the skull by a 10-20mm surgical drill

C

CAT Scan: **CT scans** reveal both bone and soft tissues, including organs, muscles, and tumors. Image tones can be adjusted to highlight tissues of similar density, and, through graphics software, the data from multiple cross-sections can be assembled into 3-D images. **CT** aids diagnosis and surgery

Catheter: A flexible, hollow plastic or rubber tube that may be passed into a blood vessel to withdraw fluids or inject medicine or contrast materials

Cerebellum: The **cerebellum** lies at the back of the brain. The major functions of the **cerebellum** include maintaining balance and equilibrium and programming and fine-tuning voluntary and involuntary movements

Cerebral: Relating to the brain.

Cerebral angiogram: A medical test in which an x-ray visible dye is injected into blood vessels to allow them to be imaged on an x ray

Cerebral cortex: The surface layer of gray tissue of the cerebrum, frequently called the gray matter. The large size of the **cerebral cortex** in humans distinguishes them from other animals. Specific parts of the **cortex** control specific functions, including sensation, voluntary muscle movement, thought, reasoning, and memory

Cerebrospinal fluid (CSF): Is the **fluid** which covers all exposed surfaces of the central nervous system. Its main functions are to cushion the delicate brain structure, supports the weight of the brain and act as a transport medium for nutrients, chemical messengers and waste products

Chronic: Term applied to a diverse group of diseases, such as heart disease, cancer and arthritis (to name a few), that tend to be long-lasting and persistent in their symptoms or development

Cognitive: A general **term** that includes thinking, perceiving, recognizing, conceiving, judging, sensing, reasoning, and imagining

Coma: A state of deep unconsciousness that lasts for a prolonged or indefinite period, caused by severe injury or illness

Concussion: A **concussion** is a traumatic brain injury involving temporary loss of brain function. It is caused by a direct blow to the head, face, or neck that applies force to the brain within the skull

Contrecoup: These injuries are most commonly caused by a fall, blunt force trauma, a sport injury, or the force associated with a car or motorcycle accident

Confusion: Is the state of being bewildered or unclear in one's mind about something, which leads to Cognitive Distortion. Cognitive distortions tend to interfere with the way a person perceives an event

Crainectomy: Surgical removal of a section of the skull

CSF: See **Cerebrospinal fluid**

CT Scan: See **Cat Scan**

Chronic traumatic encephalopathy (CTE): A progressive neurological disease that is found especially in athletes (such as boxers, wrestlers, or football players) who have experienced repetitive, mild injury to the brain and that is characterized by short-term memory loss, concentration deficits, confusion, depression, behavioral and personality changes

D

Dementia: A general **term** used to describe a group of similar conditions (such as Alzheimer's disease or vascular **dementia**) characterised by the gradual impairment of brain function. It is commonly associated with memory loss, but can affect speech, cognition (thought), behaviour and mobility

Diagnostic statistic manual for mental health (DSM): Is the handbook widely used by clinicians and psychiatrists to diagnose psychiatric illnesses

Diffuse axonal injury: Is a brain **injury** in which scattered lesions occur over a widespread area in white matter tracts as well as grey matter. **DAI** is one of the most common and devastating types of traumatic brain **injury** and is a major cause of unconsciousness and persistent vegetative state after severe head trauma

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D

Diffuse brain injury: This is the medical **term for a brain** that has sustained injuries in many areas rather than in one specific location

Disinhibition: Is a pattern of behavior that is characterized by impulsivity and disregard for social norms and authority. There is a lack of restraint from negative behavior. Individuals can appear hyper-sexual, eat excessively, and show aggression. Symptoms can appear similar to mania and risk-taking behaviors are common. Caused by frontal Lobe trauma

Dysarthria: A generic **term for any** speech disorder caused by an alteration of strength and control of speech muscles due to damage to the brain or nerves

Dysautonomia: Is an umbrella **term** used to describe several different medical conditions that cause a malfunction of the Autonomic Nervous System. The ANS controls the "automatic" functions of the body that we do not consciously think about, ie; heart rate, blood pressure, digestion, dilation, constriction of the pupils, kidney function, and temperature

Dysexecutive syndrome: The consequences of diseases of the frontal lobe of the brain, in which people have cognitive difficulties, e.g., paying attention, organizing time and tasks, making plans, and solving problems, as well as psychological and emotional problems

Dysphagia: Impaired (difficulty) swallowing.

Dysphasia: refer to Aphasia ie; this is a milder form

Dyspraxia: refer to Apraxia ie; this is a milder form

E

Echolalia: A speech disorder in which the person inappropriately and automatically repeats the last words he or she has heard. Generally, development stage in infants and is abnormal in adults

EEG: The electroencephalogram (**EEG**) is a measure of brain waves. It is a readily available test that provides evidence of how the brain functions over time. The **EEG** is used in the evaluation of brain disorders. Most commonly it is used to show the type and location of the activity in the brain during a seizure such as epilepsy

Embolism: A blood clot (a thickened mass of blood), mass of bacteria or other tissue, air or foreign body that breaks loose, travels through the bloodstream and lodges in either an organ or artery forming a complete or partial blockage in blood flow

Embolization: The movement of a blood clot, piece of tissue, or pocket of air or gas from where it forms through the bloodstream until it lodges in place, cutting off the flow of blood with its oxygen and tissue nutrients. Catheter embolization is the deliberate introduction of foreign ("embolic") material such as gelatin sponge or metal coils to stop bleeding or cut off blood flowing to a tumor or arteriovenous malformation

Embolus: A plug, composed of a detached blood clot, mass of bacteria or other tissue, air or other foreign body, completely or partially blocking a vessel

Emotional lability: Is a neurological condition that causes uncontrollable laughing or crying, often at inappropriate times. It tends to affect people with pre-existing neurological conditions or injuries

Epilepsy: These seizures typically cause a very brief lapse of consciousness (approx 20 seconds), so brief that they may go unnoticed, and are generally characterised by staring. There could also be a stiffening without jerking, that may cause falling. Antiepileptic drugs Medication, known as AED, prescribed to minimise the frequency

Executive function: Group of complex mental processes and cognitive abilities (ie; working memory, impulse inhibition, and reasoning) that control skills (ie; organizing tasks, remembering details, managing time, solving problems) required for goal-directed behavior ie; the ability to perform complex

F

Focal brain injury: **Injury** to one localized area of the **brain**. Often results from injuries where the **brain** is struck by or strikes an object, or an **injury** where an object penetrates the skull

Frontal lobes: A region of the cerebral cortex at the front of the brain (lying just behind the forehead) that is necessary for motor control and more complex, high-end functioning like speech, decision making, and judgments

G

Glasgow coma scale (GCS): A scale that is used to assess the severity of a brain injury, that consists of values from 3 to 15 obtained by summing the ratings assigned to three variables depending on whether and how the patient responds to certain standard stimuli by opening the eyes, giving a verbal response, and giving a motor response, and that for a low score (as 3 to 5) indicates a poor chance of recovery and for a high score (as 8 to 15) indicates a good chance of recovery

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H

Haematoma: A collection of blood formed when small blood vessels are damaged, causing bleeding into the tissues

Hard collar: A firm plastic collar applied to the neck of a patient whose mechanism of injury may lead to a neck injury. It is designed to limit flexion, extension, and lateral movement of the neck

Hemianopia: Is partial blindness or a loss of sight in half of your visual field. It's caused by brain damage, rather than a problem with your eyes. Depending on the cause, hemianopia may be permanent or temporary

Hemiparesis: Is a muscular weakness or partial paralysis restricted to one side of the body

Hemiplegia: Paralysis of the right or left half of the body. This is the result of damage to one side of the main motor nerve pathways which run down from the surface of the brain to the spinal cord. **Hemiplegia** is a cardinal sign of STROKE but can be caused by MULTIPLE SCLEROSIS, brain inflammation (ENCEPHALITIS), brain tumor or injury

Heterotopic ossification: Bone formation at an abnormal site, usually in soft tissue such as muscle

Homeostasis: A property of cells, tissues, and organisms that allows the maintenance and regulation of the stability and constancy needed for the body to function properly ie; Breathing, maintaining blood sugar levels, breathing

Hydrocephalus: Is a condition in which the ventricles in the brain are enlarged, due to an increased amount of cerebrospinal fluid

Hypertension: A severe elevation (rise) in blood pressure that can lead to organ damage, including encephalopathy (brain damage), heart attack, heart failure, hemorrhagic stroke ie; bleeding into the brain

Hypotension: Is abnormally low blood pressure. This means the pressure within blood vessels is low. This is frequently caused by shock or loss of blood volume. The term hypotension is frequently used in the context of 'postural' or 'orthostatic' hypotension, which refers to a significant fall in blood pressure when one stands up quickly. This can cause symptoms of dizziness

Hypothalamus: Is a very small part of the brain that has a number of very important functions: it controls the autonomic nervous system and processes and secretes neurohormones. These hormones regulate body temperature, hunger, thirst, sleep, fatigue, sex drive, mood, sleep, alertness, and circadian rhythms

Hypoxia: Is when the body is deprived of a sufficient supply of oxygen. It is a contributing cause to cardiac arrest. Adequate ventilation and oxygenation is vital to reverse **Hypoxia**.

Intracranial pressure monitor: Is used to check the **pressure** inside the skull of a person who has had brain injury. Injuries such as bleeding, trauma or surgery can cause the brain to swell. If the swelling develops, the **pressure** inside the rigid skull rises, which may harm the brain
Impulsivity: Is the tendency to act without thinking. This type of behavior reflects having little or no forethought, reflection, or consideration of consequences

I

Intracerebral haematoma: Is a type of intracranial bleed that occurs within the brain tissue or ventricles. Symptoms can include headache, one-sided weakness, vomiting, seizures, decreased level of consciousness, and neck stiffness. Fever is also common. In many cases bleeding is present in both the brain tissue and the ventricles. Causes include brain trauma, aneurysms, arteriovenous malformations, and brain tumors

M

Meninges: Thin layers of tissue, or membrane, that surround and cover the brain and spinal cord

Meningitis: Inflammation in the meninges, the covering of the brain and spinal cord, often caused by a virus or bacteria

Migraine: A type of headache that may include intense, throbbing pain often on one side of the head, nausea, vomiting and sensitivity to light, sound and exertion, as well as a visual disturbance called an aura. Can occur after a brain injury

Minimally-responsive state: Is a defined as severely altered consciousness in which minimal but definite, sustained and/or reproducible behavioral evidence of awareness of self or environment is demonstrated. The person may have periods where they can communicate or respond to commands, such as moving a finger when asked

Magnetic resonance imaging (MRI): An MRI scan (MRI) produces an image of the body using a strong magnet and radio waves. Unlike other diagnostic **imaging** tests, an MRI scan can show the muscles, ligaments and tendons, nerve roots, and cartilage with precision. Additionally, an MRI does not have the radiation risks associated with other tests such as x-ray and CT scans

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N

Neurons: Also called a nerve cell.

A specialized cell in the brain and nervous system that receives and sends electrical impulses through networks of connections

Neuropsychologist: A clinical psychologist who specializes in assessing psychological status caused by a brain disorder

Neurocognitive disorder: Is a general term that describes decreased mental function due to a medical disease other than a psychiatric illness

Neuroplasticity: The brain's ability to reorganize itself by forming new neural connections throughout life. **Neuroplasticity** allows the neurons (nerve cells) in the brain to compensate for injury and disease and to adjust their activities in response to new situations or to changes in their environment

O

Occipital lobes: It is the receptive area for fine sensory stimuli, and the highest integration and coordination of sensory information is carried on here. Visual defects can occur if this lobe is damaged

Oedema: Excessive accumulation of fluid, mainly water, in the tissue spaces of the body. **Oedema** may be local, as at the site of an injury, or general. It often affects specific organs, such as the brain or the lungs

P

Parietal lobes: The **parietal lobe** has three main functions: processing sensory information, comprehending language and very complex areas of human behaviour such as spatial orientation and perception

Peg tube: Stands for percutaneous endoscopic gastrostomy, a surgical procedure for placing a feeding tube without having to perform an open laparotomy (operation on the abdomen). The aim of PEG is to feed those who cannot swallow. PEG may be done by a surgeon, otolaryngologist (ENT specialist) or gastroenterologist (GI specialist)

Perseveration: The inappropriate persistence or repetition of a thought or action after the causative stimulus has ceased or in response to different stimuli; for example, a patient answers a question correctly but incorrectly gives the same answer to succeeding questions

Persistent vegetable state: Refer to Minimally-responsive state

Post-traumatic amnesia: Resulting from concussion or other head trauma

P

Premorbid: Occurring or existing before the occurrence of physical disease or emotional illness

Proprioception: Awareness of posture, balance or position due to the reception of stimuli, produced within the organism, which stimulate receptors (called proprioceptors) located within muscles, tendons, joints and the vestibular apparatus of the inner ear

R

Resilience: Is what gives people the psychological strength to cope with stress and hardship. It is the mental reservoir of strength that people are able to call on in times of need to carry them through without falling apart

S

Seizure: A sudden, uncontrollable wave of electrical activity in the brain that causes involuntary bodily movement, a change in attention or a loss of consciousness

Sequelae: Any condition or state that follows a disease, disorder, or injury, especially one that is a consequence of it

Shunt: Is an apparatus to move a body fluid, such as cerebrospinal fluid, from one place to another. 2) A catheter (tube) that carries cerebrospinal fluid from a ventricle in the brain to another area of the body

Spasticity: Rigidity in muscles causing stiffness and restriction of movement. **Spasticity** may or may not be associated with paralysis or muscle weakness. **Spasticity** with paralysis is a feature of many cases of STROKE

SPECT: A special type of computed tomography (CT) scan in which a small amount of a radioactive drug is injected into a vein and a scanner is used to make detailed images of areas inside the body where the radioactive material is taken up by the cells. SPECT can give information about blood flow to tissues and chemical reactions (metabolism) in the body. Also called single-photon emission computed tomography

Subarachnoid: Is the space between the brain and the membranes that cover the brain and spinal cord. An example of subarachnoid is a loss of blood from a ruptured blood vessel just under the membrane that covers the brain

Subdural: Below the dura, the outermost, toughest, and most fibrous of the three membranes (meninges) covering the brain and the spinal cord

Symptom: Subjective evidence of disease or injury as perceived and reported by a patient

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S

Synapse: *A specialised junction at which a neural cell (neuron) communicates with a target cell. At a synapse, a neuron releases a chemical transmitter that diffuses across a small gap and activates special sites called receptors on the target cell. The target cell may be another neuron or a specialised region of a muscle or secretory cell*

T

Tachycardia: *Is the **medical term** for a heart rate over 100 beats per minute. There are many heart rhythm disorders (arrhythmias) that can cause **tachycardia**. Sometimes, it's normal for you to have a fast heartbeat. For instance, it's normal for your heart rate to rise during exercise or as a response to stress, trauma or illness*

Temporal lobes: *One of the five **lobes** of the brain, is the region below the lateral sulcus (approx Ear level). The **temporal lobe's** major functions include: interpretation and comprehension of language and higher-order interpretation and processing of visual information*

Thermoregulation: *Is the ability of the body to maintain at a temperature within certain healthy boundaries, even when the external temperature can be very different*

Thrombus: *Is a stationary blood clot along the wall of a blood vessel, frequently causing vascular obstruction. A thrombus is a healthy response to injury intended to prevent bleeding, but can be harmful in thrombosis, when clots obstruct blood flow through healthy blood vessels*

Tracheostomy: *A tracheostomy is a surgical procedure to cut an opening into the trachea (windpipe) so that a tube can be inserted into the opening to assist breathing. A tracheostomy may be temporary or permanent, depending on the reason for its use. It can be removed once regular breathing is once again possible. Your speech will be affected including eating and drinking whilst the tube is in place*

V

Ventilator: *A machine that mechanically assists a patient in the exchange of oxygen and carbon dioxide, a process sometimes referred to as artificial respiration*

Ventricles: *Cerebral **ventricles** Spaces in the **brain** that are located between portions of the **brain** and filled with cerebrospinal fluid*
