Milestones Glossary

**ABC Method**—Technique for evaluating and tracking undesirable target behaviors that analyzes: A—Antecedent, or what happens prior to a behavior; B—Behavior, or what happens as a result of A; and C—Consequence, or what happens as a result of B.

**Abducens**—One of the three cranial nerves involved in movements of the eyeball and pupil.

**Absence Seizures**—Formerly known as petit mal, there is transient loss of consciousness. Person may cease physical movement, have loss of attention or stare vacantly; neither speaking nor apparently hearing what is said. There may be excessive eye blinking, staring, or chewing movements. Seizures so brief that they may not be recognized.

**Accommodation**—An adaptation of real-life environment made to suit the special needs of a student. The adaptation does not alter the content or level of the material, or expectations of the student. See also Modification.

**Active Ignoring**—Briefly removing all reinforcement (attention, scolding, eye contact) when your child is engaged in a mildly annoying behavior in an effort to avoid accidentally reinforcing a behavior you wish to eliminate. Also known as planned ignoring.

**Activities of Daily Living (ADL)**—The accumulation of knowledge and the ability to perform the self-care tasks required to live independently in the natural environment. Such life skills include eating, dressing, grooming, and bathing. Also called functional abilities, functional life skills, or self-help skills.

**Acute**—Refers to the most severe and critical period of a disease or injury.

**Adaptive Equipment**—Devices that assist in and promote the recovery process by optimizing your child’s physical and psychological independence, energy efficiency, and safety, and preventing secondary problems. Also known as assistive devices or assistive technology.

**Advance Medical Directive**—A document in which someone, while competent to do so, expresses a wish that his life not be prolonged by artificial, extraordinary, or heroic measures. This type of directive does not involve the disposing of one’s property. Formerly called a living will.

**Advocacy**—Supporting or promoting a cause. Speaking out.

**Alternating Attention**—The ability to shift focus from one task to another. See also Attention, Divided Attention, Selective Attention, and Sustained Attention.

**Americans with Disabilities Act (ADA)**—A federal law that prohibits discrimination against people with disabilities in employment, public accommodations, and access to public facilities. It also mandates that business and public and private entities make reasonable accommodations for persons with special needs.
Amnesia—Also called Amnestic Syndrome, a relatively rare condition that results in persistent, severe impairment in the ability to acquire (store) and retrieve new factual information with otherwise preserved cognitive function. See also Posttraumatic Amnesia.

Anesthesia—Administering drugs to induce loss of consciousness and sensation.

Ankle Foot Orthosis (AFO)—An adaptive device made of lightweight plastic that is worn inside the shoe to provide support to the ankle and foot.

Annual Goal—An educational or developmental goal set for a child with disabilities and outlined in their IEP. Progress toward these goals is discussed during the annual review meeting.

Anomia—Word-finding difficulties.

Anoxic—Lack of oxygen to the brain.

Anxiolytics—Anti-anxiety medications.

Aphasia—Loss of power of expressive speech, writing, or signs, or of comprehending spoken or written language.

Apraxia—Impairment in the ability to perform purposeful acts in the absence of paralysis or partial paralysis.

Arachnoid—The protective membrane that is attached to the surface of the brain. See also Dura Mater, Meninges, Pia Mater.

Arousal—General state of readiness of an individual to process sensory information and/or organize a response.

Articulation Therapy—Therapy administered by a speech-language pathologist to help a child produce more precise speech sounds. See also Motor Speech Disorders.

Aspiration—Inhalation of foods, liquids, or vomitus into the lungs.

Assessment—The process used to determine a child’s strengths and weaknesses, either to develop a treatment plan or a plan to address the child’s needs for special education. Includes formal testing and observations performed by one or more professionals. Term may be used interchangeably with Evaluation.

Assistive Technology Specialist—Someone with expertise in selecting, obtaining, and using assistive technology for children with special needs.

Assistive Technology—A device that is used to maintain or improve the function of a child with special needs.

Ataxia—A disturbance in muscular coordination that may result in dysarthric (see dysarthria) speech, muscle tremors, or impaired balance.
**Atrophy**—A wasting away of an organ or body tissue.

**Attention-Deficit/Hyperactivity Disorder (AD/HD)**—A condition characterized by distractibility, restlessness, short attention span, impulsivity, and sometimes hyperactivity.

**Attention**—Mental alertness and concentration; a prerequisite to all conscious and voluntary cognitive activity. See also Alternating Attention, Divided Attention, Selective Attention, and Sustained Attention.

**Audiologist**—A professional who assesses and treats hearing loss; auditory relates to the ability to hear

**Augmentative Communication Device**—A piece of equipment that allows a person to communicate without using speech.

**Aura**—An unusual sensation (through any of the senses) that may alert a person an impending seizure.

**Autism**—A lifelong neurological disability, usually appearing during the first three years of life, which severely impairs the person’s sensory processing, verbal and nonverbal communication, social interaction, imagination, problem-solving, and development.

**Autonomic**—Describes processes within the body that occur without deliberate thought or action

**Aversive Response**—A feeling of revulsion and repugnance toward a sensation, accompanied by an intense desire to avoid or turn away from it.

**Axon**—The part of a neuron (nerve cell) that conducts impulses, resulting in the stimulation of another cell (neuron, gland, or muscle fiber). See also Myelin.

**Baclofen**—Also known as Lioresal, a medication used to relax rigid, tight muscles throughout the body. See also High Tone.

**Basal Ganglia**—Areas located below the cerebral hemispheres which helps control habitual movements and posture.

**Behavioral Contingency**—Refers to a principle of learning that states that behavior is determined by its consequence; if a child likes the consequence his behavior, he will continue practicing that behavior, and vice versa. See also ABC Method; Aversive.

**Behavioral Intervention**—A plan, often generated by a psychologist to assist parents and teachers in decreasing problem/behaviors and increasing appropriate behaviors in children.

**Behavioral Observation**—Watching and assessing a child’s behavior in a variety of settings and contexts.
Bilateral Coordination—The ability to use both sides of the body together in a smooth and simultaneous manner.

Bilateral Integration—The neurological process of integrating sensations from both body sides; the foundation for bilateral coordination.

Blind Spot—Loss of vision in the specific area of the retina that is connected to an area of damage in the brain. Condition results from localized injury to the primary zone of the occipital lobe. Also known as scotoma.

Blind sight—A visual system, second to the primary occipital lobe that perceives an object’s presence and location without actual awareness of its existence, but provides no information about its specific features or identity.

Body Awareness—The mental picture of one’s own body parts, where they are, how they inter-relate, and how they move.

Bolus—The clump or mass of chewed food formed in the mouth during the oral phases of swallowing and delivered to the stomach during the pharyngeal phase.

Botulinum Toxin—A drug injected directly into muscle with high tone, in order to relax and lower the tone of that muscle. Also known as Botox.

Brainstem—Made up of the midbrain and hindbrain (not including the cerebellum), that brainstem is the pathway between the diencephalon and spinal cord and is responsible for basic bodily functions such as breathing and heart rate.

Case Manager—A qualified coordinator of services and equipment for a patient who has sustained a TBI; provides a link between health care providers, patient, and insurance carrier.

Catheter—A hollow tube inserted into an opening in the body that allows for the passage of fluids.

Cellular—Consisting of or pertaining to cells, which are the smallest unit of a living organism/the basic structure for tissue and organs.

Central Nervous System (CNS)—Made up of the brain and the spinal cord, this system is responsible for controlling what we think and do.

Cerebellum—The part of the hindbrain, located under the occipital lobes, which connects to the rest of the brain by tracts that enter the brainstem. Responsible for equilibrium and the coordination of voluntary muscle activity, it also plays a role in the modulation of muscle tone.
Cerebral Hemispheres—The right and left sections of the cerebrum, separated by a deep crevice and subdivided into four lobes each. *See also* Left Cerebral Hemisphere, Right Cerebral Hemisphere.

Cerebrospinal Fluid (CSF)—Fluid in the subaracnoid space that cushions the brain during movement. *See also* Ventricular System.

Cerebrum—Made up of the right and left cerebral hemispheres, it is the part of the brain that controls conscious and voluntary processes. The cerebrum and diencephalon make up the forebrain.

Chaining—A process in which a child masters a complex skill by learning its components step by step and then putting them together. *See also* Task Analysis.

Chunking—Grouping related information together for the purpose of storing more information in short-term memory. This process increases the likelihood that the information will make it into long-term memory.

Circumlocute—To talk “around” a topic without ever getting to the point.

Client Assistance Programs (CAP)—Programs that help people with disabilities, their families, or agency representatives obtain information and access to the array of services available through programs, projects, and facilities funded under the Rehabilitation Act of 1973, Title V.

Closed Head Injury (CHI)—The most common type of head injury. It does not involve penetration of the dura mater.

Cognition—Conscious process of knowing or being aware of thoughts or perceptions, including understanding and reasoning.

Cognitive Impairment—Difficulty with perception, memory, attention, and reasoning skills.

Cogwheel Rigidity—Rigidity with little jerks when the muscles in the arms and legs are stretched by the examiner.

Coma—A state of deep or prolonged unconsciousness, usually caused by injury or illness.

Compensate—To adopt or design new techniques to solve problems and make up for abilities.

Compliance—When a child meets the terms of your request with no more than a brief delay.

Computerized Tomography Scan (CT Scan)—A procedure that uses computerized X-rays to show pictures of cross sections of the brain or body.

Conceptual Organization—Refers to the process of categorizing information so that concepts can be stored in the brain and retrieved when needed.
**Concussion**—Condition of impaired functioning of the brain as a result of a violent blow or impact.

**Confabulation**—Sometimes mistaken for intentional lying, this is a compensatory process of filling in gaps in memory with fictitious information.

**Congenital**—Inherent; born with.

**Consciousness**—The state of being aware of one’s feelings and surroundings.

**Consequence**—The conditions, either positive or negative, that take place immediately following a behavior; believed to determine whether or not the child will repeat the same behavior in the future.  *See also* ABC Method.

**Contracture**—Limitations in range of motion of body parts and joints due to muscle and soft tissue shortening.  *See also* High Tone.

**Contrecoup Contusion**—A bruise on the brain 180 degrees from the place where an individual’s head has been struck; where the opposite side of the brain has hit against the inside of the skull with speed.  *See also* Contusion; Coup Contusion.

**Contusion**—A bruise. A brain contusion can result in the death or disruption of cells.  *See* Contusion; Contrecoup Contusion; Immediate Injury.

**Cortex**—The part of the brain made up of gray matter. It makes up the outer area of the cerebral hemispheres where the cell bodies of the nerve cells (neurons) are located.  *See also* Cortical.

**Cortical**—Referring to the cortex of the brain.

**Cost-of-Care Liability**—The right of a state providing care to a person with disabilities to charge for that care and to collect from that person’s assets.

**Coup Contusion**—A bruise on the cortex of the brain at the point of contact where the individual’s head has been struck.  *See also* Contrecoup Contusion; Contusion.

**Cranial Nerve Dysfunction**—Disruption of the cranial nerves due to swelling, bleeding, or other sources of pressure in the brain caused by TBI.

**Cranial Nerves**—Twelve pairs of nerves arising in the brain or brainstem that control muscles located in the head, such as those for eye movement, talking, swallowing, and smiling. Cranial nerves also receive sensory information from the head.

**Crossing the Midline**—Using a hand, foot, or eye on the opposite side of the body.

**Cue**—Gestures or words that prompt a person to perform a behavior or activity. Also known as prompt.
Dantrolene—oral medication used to reduce high tone in muscles throughout the body. Also known as Dantrium.

Declarative Memory—Memory for facts and episodes of personal experience. See also Hippocampus.

Deep Venous Thrombosis (DVT)—Blood clot in one of the deep veins of the body.

Deficit—A lack of something necessary or fundamental.

Delayed Injury—A secondary injury that occurs after a TBI, such as edema, hemorrhage, herniation syndrome, hypoxic ischemic injury, and damage from the neurotoxic cascade. See also Immediate Injury.

Delusion—A false belief.

Depressed Skull Fracture—Break in a skull bone with a visible indentation.

Developmental Delay—A term used to describe an infant or child who is not exhibiting age-appropriate behaviors or acquiring skills at the same rate as other children. Developmental delays may or may not be outgrown.

Developmental Disability—A condition originating before the age of eighteen that may be expected to continue indefinitely and that impairs or delays development of skills and impairs the child’s ability to function independently in society.

Diencephalon—A part of the forebrain made up of the thalamus and hypothalamus. See also Cerebrum.

Diffuse Axonal Injury (DAI)—Injury to the axons throughout the brain. Also known as shearing injury. See also Immediate Injury.

Diffuse—A spreading out. In relation to TBI, it refers to a head injury affecting multiple areas throughout the brain. See also Focal.

Diplopia—Double vision.

Disability—A term used to describe a delay in physical or cognitive development. The older term “handicap” is also sometimes used.

Disinhibition—Speaking or acting without thinking it through first, resulting in socially unacceptable behavior.

Divided Attention—The ability to attend to multiple tasks, or multiple components of a task, simultaneously. See also Alternating Attention; Attention; Selective Attention; Sustained Attention.
Dura Mater—The tough membrane attached to the inner surface of the skull that helps protect the Brain. Also called Dura. See also Arachnoid; Meninges.

Dysarthria—Slow and labored speech, sometimes with imprecise articulation.

Dysfluency—Speech that is characterized by repetitions of sounds, syllables, words, or phrases, which impair its overall flow. Also known as stuttering, disfluent speech often occurs in the initial phases of recovery from TBI.

Dysphagia—Difficulty swallowing.

Dyspraxia—Difficulty making the movements needed to produce sounds or words. See also Apraxia.

Early Intervention—Treatment or therapy to prevent problems or to improve a young child’s health and development, such as eyeglasses or ear tubes for medical problems, and speech/language therapy or occupational therapy for developmental problems.

Edema—Swelling due to accumulation of fluids. In relation to TBI, it is a swelling of the brain. See also Delayed Injury.

Electroencephalogram (EEG)—A noninvasive, painless test that records the brain’s electrical activity (brainwaves) and may show abnormal patterns associated with injuries or seizures.

Emotional Lability—Describes dramatic mood swings, common in individuals with TBI, caused by damage to the frontal lobes. See also Flat Effect.

Endocrine System—The system of internal glands of the body (such as pituitary, thyroid, and adrenal), which make and secrete hormones that then produce specific effects in the body.

Endoscope—A tool consisting of a lighted tube with a camera at the end that is inserted into the body to enable a doctor to examine the inside of a body cavity.

Environmental Modifications—Adaptations to a child’s surroundings that allow him to function more easily and appropriately according to his physical and behavioral needs. May include an Environmental Prompt - a reminder (such as a note) placed in a child’s environment to cue him to perform a particular action.

Epidural Hematoma—Bleeding between the skull and dura mater.

Epilepsy—A chronic condition in which abnormal electrical activity in the brain causes seizures.

Equilibrium—A state of balance and stability.

Executive Function—Cognitive or thinking abilities that allow us to have self-regulated, goal-directed behavior.
Expressive Language—Cognitive or thinking abilities that allow us to have self-regulated, goal-directed behavior.

Extinction Burst—A brief, but significant, increase in the frequency or intensity of a target behavior that can occur after the technique of active ignoring is employed.

Eye-hand Coordination—The efficient teamwork of the eyes and hands, necessary for activities such as playing with toys, dressing, and writing.

Fading—A process of steering a child through the steps of a task, then gradually withdrawing, or fading physical guidance and verbal prompts as he learns the new behavior.

Fine Motor—Related to the use of the small muscles of the body, such as those in the hands, feet, fingers, and toes. See also Gross Motor.

Flat Affect—Describes apparent emotional indifference, common in individuals with TBI.

Focal—Refers to a head injury that affects only a localized or contained area of the brain. See also Diffuse.

Foot Drop—A term used to describe the inability to lift up the toes and foot while walking.

Forebrain—The most highly developed of the three major sections of the brain, it is made up the cerebrum and diencephalon.

Formal Assessment—A battery of standardized tests, based on norms, administered in a low-distraction, one-to-one setting. The overall purpose of this type of testing is to compare performance after TBI to performance before TBI and to determine areas of strength and weakness. The results of these tests will be expressed as age equivalent scores, percentile rank, or standard scores.

Frontal Lobe—One of the four lobes in each cerebral hemisphere, which assists in coordinating fine movement, the motor aspect of speech, executive function, motivation, social skills, and certain parts of what we call personality.

Frustration Tolerance—The ability to accept merely the anticipation of a desired goal (represented in working memory) as an effective stand-in for the actual thing.

Full Scale IQ (FSIQ)—The combined results of the Verbal IQ and Performance IQ subtests of the Wechsler Intelligence Scale for Children-Third Edition, which yield an estimate of overall intellectual ability.

Gastronomy Tube—Tube placed through a surgical opening into the stomach to administer liquid feedings.

Generalization—The application of learned information to a novel situation.
Generalized Seizures—Sudden burst of abnormal, generalized discharges that usually affect both hemispheres; subclassified as tonic-clonic and absence seizures.

Glasgow Coma Scale (GCS)—Standardized system for assessing degree of conscious impairment and predicting future outcome following traumatic brain injury.

Grading of Movement (force)—The ability to flex and extend muscles according to how much pressure is necessary to exert; a function of proprioception.

Gray Matter—The parts of the brain, including the outer surface of the cerebral hemispheres, made up of the bodies of the brain cells. See also Cortex.

Gross Motor—The use of the large muscles of the body, such as those of the back, legs, and arms. See also Fine motor.

Guardian—A person appointed by law to manage the welfare, legal, and financial affairs of another person or his or her estate. See also Estate Planning.

Gyri—Ridges on the surface of the right and left hemispheres of the cerebrum.

Hallucination—The sensation of hearing or seeing something that is not real.

Handicap—An outdated term referring to some form of disability, including physical disability, intellectual disability, sensory impairment, behavioral disorder, learning disability, or combination of the above. See also Multihandicapped.

Head Injury—Trauma to the head that can result in a bone fracture in the skull or face, or bruises or cuts to the head and face. Does not necessarily result in a brain injury.

Hematoma—Collection of blood trapped in the tissues of the skin or in an organ.

Hemianopsia—Loss of half of the visual field.

Hemiparesis—Muscular weakness on one side of the body.

Hemiplegia—Paralysis of one side of the body.

Hemorrhage—Bleeding where blood vessels have been torn or disrupted.

Heterotopic Ossification (HO)—When new bone forms in abnormal places, such as in the muscles of the body.

High Tone—Describes an increased tightness in muscles; the two types are spasticity and rigidity. See also Baclofen; Botulinum Toxin; Dantrolene.

Hindbrain—The furthest back of the three major divisions of the brain, it contains the cerebellum. The hindbrain (not including the cerebellum) and the midbrain make up the brainstem.
**Hippocampus**—Part of the limbic system, it is the seahorse-shaped structure in the temporal lobe that is essential in the formation of new declarative memories.

**Hydrocephalus**—Enlargement of fluid-filled cavities in the brain. Also known as Water on the Brain.

**Hyperactivity**—Behavior that includes frequent movement, flitting from one activity to another, or having difficulty remaining seated. *See also* ADHD.

**Hyperextension**—Injury caused by a joint bending beyond its normal range of extension.

**Hyperreflexive Bladder**—Bladder in which the need to empty is easily triggered.

**Hypothalamus**—The part of the diencephalon that is responsible for certain basic bodily functions such as the autonomic control over heart rate, body temperature, and fluid balance. It also plays a role in emotional control.

**Hypotonicity**—Low muscle tone in the trunk or extremities.

**Hypoxic Ischemic Injury**—Delayed injury to the brain that results from insufficient blood flow and oxygenation.

**Immediate Injury**—An injury that occurs immediately at the time of trauma and is due to the physical forces injuring or disrupting parts of the brain. The two main types of immediate injuries are contusions and diffuse axonal injury. *See also* Delayed Injury.

**Immune System**—The system that produces special proteins called antibodies, which protect the body from disease.

**Impulse Control**—The ability to control automatic response to stimuli—to think before acting or speaking.

**Impulsivity**—Acting without premeditation or thought to potential consequences.

**Inclusion**—Placing children with disabilities in the same schools and classrooms with children who are developing typically. The environment includes the special supports and services necessary for educational success. *See also* Least Restrictive Environment; Special Education.

**Incontinence**—The inability to control the release of urine from the bladder.

**Individualized Education Program (IEP)**—The written plan that specifies the education and related services the local education agency has agreed to provide for a child with disabilities who is eligible under IDEA; for children ages three to twenty-one.

**Individuals with Disabilities Education Act (IDEA)**—A federal law originally passed in 1975 and subsequently amended that requires states to provide a free appropriate public education in the least restrictive environment to children with disabilities.
**Inhibition**—An executive function controlled by the frontal lobes that allows us to not respond impulsively or automatically to a stimulus, but pause to consider the probable consequences of our actions. *See also* Disinhibition; Impulse Control.

**Inpatient Rehabilitation Hospital**—A medical facility that focuses on improving patients’ functional abilities by means of intense therapy provided by a team of professionals.

**Integration**—The combination of many parts into a unified, harmonious whole.

**Intelligence Quotient (IQ)**—A numerical measurement of intellectual capacity that compares a person’s chronological age to his “mental age,” as shown on standardized tests.

**Intensive Care Unit (ICU)**—The specialized unit within an acute care hospital in which critically ill patients receive aggressive medical treatment for life-threatening conditions.

**Intracerebral Hemorrhage**—Bleeding within the brain. Also known as intraparenchymal hemorrhage.

**Intracranial Pressure (ICP)**—Pressure within the space inside the head occupied by the brain, blood, and cerebrospinal fluid, due to swelling of the brain, bleeding, or accumulation of fluid.

**Intracranial Pressure Monitor**—A device surgically implanted inside the head that sends information about internal pressure to a monitor. This helps medical staff to recognize problems early so they can use appropriate medications and interventions to control intracranial pressure, and to recognize when there may be a problem that might be improved with surgery.

**Intraventricular Hemorrhage**—Bleeding into the ventricles of the brain.

**Intubate**—The process of inserting a tube, usually through the larynx, which allows the passage of air.

**IV Tube**—A tube inserted directly into a vein for the purpose of injecting fluids.

**Kinesthesia**—The conscious awareness of joint position and body movement in space, such as knowing where to place one’s feet when climbing stairs, without visual cues.

**Language**—Any set of arbitrary symbols in the form of spoken words, written symbols, or physical gestures, that people use to communicate with one another. *See also* Receptive Language.

**Larynx**—Voice box.

**Lateralization**—The process of establishing preference of one side of the brain for directing skilled motor function on the opposite side of the body, while the opposite side is used for stabilization; necessary for hand preference and crossing the midline.

**Learning Disability (LD)**—A condition that makes learning in one or more areas, such as math, reading, language, and writing, more difficult than would be expected based on child’s
overall level of intelligence. Students with a learning disability have a discrepancy between their intellectual ability and their academic achievement.

**Least Restrictive Environment (LRE)**—The requirement under IDEA that children receiving special education must be educated to the fullest extent possible with children who do not have disabilities. *See also* Inclusion.

**Left Cerebral Hemisphere**—One of the two cerebral hemispheres, separated anatomically and functionally, responsible for verbal functions, including producing and understanding spoken language, reading, writing, and verbal memory. *See also* Cerebrum, Right Cerebral Hemisphere.

**Lesion**—An area of injury or damage.

**Lethargy**—Abnormal sluggishness or drowsiness.

**Limbic System**—A group of brain structures that form the inner ring or core of the cerebral hemispheres and that are associated with emotional experience, emotional expression, memory, and the satisfaction of needs necessary for survival. *See also* Hippocampus.

**Lobe**—Any of the main divisions of the brain, separated by fissures. *See also* Frontal Lobe; Occipital Lobe; Parietal Lobe; Temporal Lobe.

**Long-Term Goal**—In reference to an *IEP* or *IFSP*, a long-term goal is a statement of the skills or abilities that your child is expected to achieve over a period of time, generally one or two years or more.

**Long-Term Memory**—Information stored in the brain that can be recognized or recalled at a later time. *See also* Short-term Memory.

**Magnetic Resonance Imagery (MRI)**—A noninvasive technique that uses harmless magnetic energy to provide a detailed image of the brain or body. *See also* Neuroimaging.

**Maximal Assist**—Therapist/caregiver is doing > 75% of the work.

**Medulla Oblongata**—Located at the point where the brain and spinal cord meet, the medulla oblongata controls breathing and circulation.

**Membrane**—Layer of tissue covering cell or organ.

**Memory Journal**—A book that compiles important dates, times, events, photographs, and commentary relating to a child’s brain injury and recovery process. Functions as a tool to help the child put his injury into perspective and resume activities of daily living.

**Meninges**—The three membranes, including the arachnoid, dura mater, and pia mater, that envelope the brain inside the skull.
**Mental Retardation**—Presently more appropriately termed intellectual disability. A development disability associated with intellectual functioning significantly below average, as well as difficulties with adaptive functioning (acquiring the skills needed to function on an age-appropriate level in the real world). People diagnosed with mental retardation typically score below 70 on IQ tests.

**Mental Status**—Thinking abilities and processes.

**Midbrain**—The midsection of the brain sandwiched between the forebrain and hindbrain. The midbrain and hindbrain (not including the cerebellum) make up the brainstem.

**Midline**—A median line dividing the two halves of the body. *See also* Crossing the Midline.

**Mild TBI**—Traumatic brain injury characterized by less than one hour of coma (usually momentary loss of consciousness or none at all), as defined by the International Classification of Diseases. *See also* Moderate TBI; Severe TBI.

**Minimal Assist**—Therapist is doing <25% - 50% of the work.

**Moderate Assist**—Therapist/caregiver is doing 50 – 75% of the work.

**Moderate TBI**—Traumatic brain injury characterized by one to twenty-four hours of coma, as defined by the International Classification of Diseases. *See also* Mild TBI; Severe TBI.

**Modification**—An alteration of the classroom environment, format, or situation, made to suit the needs of a student, that changes what that student is expected to learn or demonstrate. *See also* Accommodation.

**Modified Barium Swallow**—A test used to examine a child’s swallowing ability after TBI. Different food types containing barium, which can be seen on an X-ray machine, are swallowed; how safely they pass through the pharyngeal phase is assessed and modifications are recommended.

**Motor Control**—The ability to regulate and monitor the motions of one’s muscles for coordinated movement.

**Motor Coordination**—The ability of several muscles or muscle groups to work together harmoniously to perform movements.

**Motor Planning**—The ability to organize and sequence the steps of an unfamiliar and complex body movement in a coordinated manner; a piece of praxis.

**Motor Speech Disorders**—Disorders that cause difficulties with movements of the articulators (tongue, lips, and jaw) for speech production.

**Multidisciplinary Team (MDT)**—A group of professionals from a variety of disciplines (such as a speech-language pathologist, educator, psychologist, physical therapist) responsible
for observing and evaluating your child’s strengths and needs, making placement decisions, planning an educational program, monitoring progress, and revising the educational plan, as needed.

**Muscle Tone**—The state of muscle tension inside a muscle at its resting state.

- **normal tone**: There is just the right amount of muscle tension inside the muscle at rest. It can contract & relax easily.

- **high tone**: Too much muscle tension at rest. The muscle is tight and tense at rest. The muscle cannot easily contract and relax.

- **low tone**: There is not enough tension in the muscle at rest. The muscle feels “mushy” or “floppy”, so it takes greater effort to move.

**Musculoskeletal**—The system of the body consisting of bones, joints, and striated muscles.

**Myelin**—An insulating substance that coats axons, allowing them to send messages rapidly. See also White Matter.

**Nasogastric Tube (NG Tube)**—A tube that is used to provide fluids and nourishment to an individual who is unable to adequately eat and drink on his own. The tube is inserted through the nose and down the throat into the stomach. It is the type of tube used most frequently during the acute management stage following TBI. See also Gastronomy Tube; Percutaneous Endoscopic Gastronomy Tube.

**Neuroimaging**—Any process, such as magnetic resonance imagery (MRI) or computerized tomography (CT) scans, used to create a picture or image of the central nervous system.

**Neurologic Status**—Related to the integrity and functioning of the central nervous system.

**Neuron**—Nerve cell.

**Neuropsychological Deficits**—Cognitive, emotional, or mental disorders related to injury sustained by the central nervous system. Neuropsychological deficits that result from TBI typically occur in memory, attention, and organization, all of which are extremely important in learning new things.

**Neuropsychological Evaluation**—An evaluation of mental functions, particularly the extent to which they have been affected by brain damage or disorder; for the purpose of understanding brain-behavior relationships and treating brain-related dysfunction.

**Neuropsychologist**—A psychologist who has completed specialized training beyond the Ph.D. level in the cognitive and behavioral problems that result from changes in normal brain function. Also known as a Rehabilitation Psychologist.
Neurosurgeon—A doctor who specializes in surgical treatments for problems of the brain and central nervous system; sometimes referred to as a “brain surgeon.”

Occipital Lobe—The farthest back (most posterior) of the four lobes in each cerebral hemisphere, which are devoted exclusively to vision. It is where light, in the form of electrical signals from the retinas of the eyes, is received and interpreted. It is made up of three zones: primary, secondary, and tertiary. Also known as visual cortex, visual zone, occipital cortex, or occipital zone.

Occupational Therapist (OT)—A professional who provides occupational therapy, which is treatment designed to develop and improve fine motor and self-help skills, and, sometimes, sensory integration.

Open Head Injury—Injury to the head in which both the skull and dura mater have been penetrated.

Oral Defensiveness—Over-responsivity in the mouth to certain food textures or tastes.

Oral Motor Therapy—Therapy administered by a speech-language pathologist in which a child participates in exercises that strengthen the tongue, lips, and jaw to facilitate speech sound production. See also Motor Speech Disorders.

Oral Motor—Relating to the muscles in and around the mouth – activities such as sucking, biting, crunching, chewing, and licking. See also Motor; Oral Motor Therapy.

Oral Phase—The phase of swallowing involving moving food around in the mouth, chewing it, and preparing it for passage through the esophagus by gathering it into a clump, or bolus.

Organized Behavior—Purposeful behavior that is governed by internalized language (“self-talk”) and recognition of future plans and goals, rather than impulse.

Organizer—An organizational device such as a calendar, list of rules, daily schedule, or alarm clock used to compensate for memory, attention, and organization problems.

Orthopedic Surgeon—A doctor who specializes in diagnosing and treating orthopedic problems.

Orthopedics—A branch of surgery related to problems of the musculoskeletal system i.e., bones, joints, ligaments, or muscles.

Other Heath Impaired (OHI)—An eligibility category under IDEA used to describe a student with a chronic or acute condition that causes reduced vitality, strength, or alertness and affects the child’s educational performance. This “catch-all” category is often used to grant eligibility for services to students with TBI.
**Over arousal**—A state of disinhibition, inattentiveness, irritability, hyperactivity, impulsiveness, inappropriate social behavior, and aggressiveness. Also known as over activation. See also Under arousal.

**Oxygenation**—The process by which something receives oxygen. Cells in the brain require oxygen to function properly.

**Parietal Lobe**—One of the four lobes in each cerebral hemisphere, which is important in the interpretation of sensory information (including high level skills such as reading and understanding spatial relationships) and attention.

**Partial Complex Seizure**—A seizure that begins in a localized area of the brain, then spreads throughout the entire brain. Also known as partial seizure with secondary generalization.

**Partial Seizure**—A seizure that remains focal, or localized to a part of the brain. Also known as a focal seizure.

**Pediatric Neuropsychologist**—A neuropsychologist who specializes in the problems of children with brain disorders, and how those problems will affect development.

**Pediatric TBI**—Traumatic brain injury that occurs in a child.

**Percentile Rank**—In formal testing, percentile rank is a converted score that expresses a child’s score, relative to other test-takers, in percentile points. A score of 50 percent would mean that the child’s performance was exactly average, or that he scored as well as or better than, 50 percent of the children taking the test. See also Standard Score.

**Perception**—The meaning that the brain gives to sensory input.

**Percutaneous Endoscopic Gastronomy Tube (PEG Tube)**—A tube used to provide fluids and nourishment to an individual who is unable to adequately eat and drink on his own. The tube is inserted down the throat along with an endoscope and poked outward from inside the stomach. See also Gastronomy Tube; Nasogastric Tube.

**Performance IQ (PIQ)**—Results from the seven Performance Scale subtests of the Wechsler Intelligence Scale for Children-Third Edition that require perceptual analysis and manual manipulation of visually presented materials. See also Full Scale IQ; Verbal IQ.

**Perseveration**—Response that is repeated over and over whether or not it is appropriate.

**Persistent Vegetative State (PVS)**—The term used to describe an individual who is able to open his eyes and has normal wake-sleep cycles, but does not engage in meaningful interactions with the environment.

**Pharyngeal Phase**—The phase of swallowing, following the oral phase, in which the bolus is transported from the mouth through the pharynx (the back of the throat), past the larynx (the
opening into the airway), and into the esophagus (the tube leading from the throat to the stomach).

**Pharynx**—The throat; located below the back of the nose and mouth and above the larynx and esophagus. *See also* Pharyngeal Phase.

**Phenobarbital**—One of the less commonly prescribed antiepileptic drugs used to control post-traumatic seizures; may contribute to cognitive and behavioral problems.

**Phenol Block**—Neurolytic alcohol or block using phenol to anesthetize a particular nerve permanently. Used to control spasticity in specific muscle groups.

**Phonation Exercises**—Breath control techniques performed for the purpose of gaining control over the loudness or intensity level of speech. *See also* Motor Speech Disorders.

**Phonation**—Voice production. *See also* Speech.

**Phonemic Cue**—A verbal cue that uses a “letter” sound to prompt a listener’s response (e.g., saying “buh” to prompt a child to say “ball”).

**Physical Therapist (PT)**—A professional who provides physical therapy, which is treatment designed to develop and improve gross motor skills.

**Pituitary Gland**—The “master” gland of the endocrine system, which secretes hormones influencing metabolism, growth, and the activity of other endocrine glands. Situated at the base of the brain, it is controlled by the hypothalamus.

**Plagiocephaly**—The development of a persistent flat spot on either side or back of an infant’s head.

**Plasticity**—Flexibility; the ability of the brain to learn new things and adjust to change, despite injury.

**Pons**—White matter at the base of the brain that connects to the cerebellum, medulla oblongata, and cerebrum.

**Positive Reinforcement**—Providing a pleasant consequence after a behavior in order to encourage the child to continue or repeat that behavior. *See also* Premack Principle; Reinforcement.

**Post-concussion Syndrome**—Symptoms that develop after a concussion such as: headache, dizziness, memory loss, emotional lability, increased sensitivity to sound, impaired concentration, disinhibition, depression, and tiredness.

**Postictal Stage**—The period following a seizure when the affected person experiences drowsiness and grogginess.
Posttraumatic Amnesia (PTA)—An episode of amnesia or memory disturbance, occurring after head trauma, leading to an inability to remember things, disorientation, confusion, and sometimes agitation. The length of PTA is a good indicator of the severity of the TBI.

Posttraumatic Seizure (PTS)—A seizure that occurs after TBI. Early PTS (those occurring within the first week after injury) are relatively common and do not correlate with severity of injury or predict whether epilepsy will develop. Late seizures (occurring after the first week) are more predictive of the chance of developing posttraumatic epilepsy, a seizure disorder that results from and injury to the brain.

Post-traumatic—Occurring after the accident.

Postural Stability—The feeling of security and self-confidence when moving in space, based on one’s body awareness. SPD may cause postural insecurity, the feeling that one’s body is not stable.

Posturing—Assuming abnormal positions.

Pragmatic Language—Refers to social, conversational use of language.

Praxis—The ability to interact successfully with the physical environment; to ideate, plan, organize, and carry out a sequence of unfamiliar actions; and to do what one needs and wants to do. Also referred to as “motor planning.”

Premack Principle—A form of positive reinforcement in which you insist a child complete a less preferred activity before allowing him to engage in a preferred activity. Also known as grandma’s rule.

Premorbid History—Information regarding a child’s performance prior to TBI.

Procedural Memory—Motor skills, conditioning, and other types of memory that can be stored and retrieved without apparent conscious awareness or effort.

Progressive—Describes a condition that worsens over time.

Proprioception—The unconscious awareness of sensations coming from one’s muscles and joints that provides information about when and how muscles contract or stretch; when and how joints bend, extend, or are pulled; and where each part of the body is and how it is moving.

Protective Extension—Thrusting out an arm or leg to protect oneself while falling.

Psychiatrist—A medical doctor who diagnoses and treats mental illness; he or she may utilize prescription medications in treatment.

Psychologist—A nonmedical professional who specializes in the study of human behavior and the treatment of behavioral disorders.
Ptosis—Drooping of the eyelid caused by damage to the nerves that help control the movements of the eyeball and pupil.

Punctate—Marked by spots the size of a pinpoint.

Ranchos Los Amigos Scale—An 8-point scale that quantifies cognitive recovery after a head injury:

Reasonable Accommodation—A requirement of the ADA that employers adapt the working environment to remove obstacles that may impede an otherwise qualified individual’s ability to work, despite his disabilities.

Receptive Language—The ability to understand spoken and written communication, as well as gestures. See also Language.

Redirection—Intentionally changing a child’s focus of attention from one stimulus to another in an effort to avoid or curtail an unwanted behavior; a nonpunitive approach to shaping behavior.

Regulatory Disorder—A problem with adapting to changing conditions, such as self-calming when distressed; falling asleep and waking up; eating, digesting, and eliminating; paying attention; participating socially; and processing sensations.

Rehabilitation—The process of restoring abilities that someone used to have, but lost, due to injury or illness.

Rehearsal—Repeatedly practicing something in order to transfer than information from short-term memory to long-term memory.

Reinforcement—Any consequence that increases the likelihood of the future occurrence of a behavior. A consequence is either presented or withheld in an effort to prompt the desired response. See also Positive reinforcement.

Reinforcer—A reward, either edible, material, or in the form of attention, that effectively reinforces a desired behavior. See also Reinforcement.

Residual Impairments—Long-lasting or permanent effects of a brain injury.

Respiration—Breathing. See also Speech.

Retrieval—Accessing information from storage in long-term memory.

Retrograde Amnesia—Inability to remember events preceding an injury.

Right Cerebral Hemisphere—One of the two cerebral hemispheres, separated anatomically and functionally, responsible for the perception and memory of shape, texture, pattern, and three-dimensional spatial relationships, construction, such as copying, drawing and putting
things together, and the understanding and expression of emotion. See also Cerebrum, Left Cerebral Hemisphere.

**Rigidity**—A type of high tone, or stiff muscle tone, which produces the resistance you would feel when bending a lead pipe—constant resistance that does not change when you try to bend it more rapidly. This type of tone often decreases with sleep, and has a lower risk for contracture than spasticity.

**Scoliosis**—Curvature of the spine.

**Secondary Effects**—Injuries caused by bleeding or swelling of the brain subsequent to an injury.

**Sectioned**—Severed completely.

**Sedation**—The administration of a chemical sedative designed to reduce anxiety and induce a state of calmness.

**Seizure**—Abnormal electrical discharges in nerve cells in the brain. This leads to abrupt changes in neurologic function, such as: shifts in level of alertness, abnormal sensations, or abnormal movements.

**Selective Attention**—The ability to stay focused on relevant stimuli in the presence of internal or external distractions. Also known as freedom from distractibility. See also Sustained Attention.

**Self-help Skills**—Competence in taking care of one’s personal needs, such as bathing, dressing, eating, grooming, and studying.

**Self-regulation**—The ability to control one’s activity level and state of alertness, as well as one’s emotional, mental, or physical responses to sensations; self-organization.

**Sensory Defensiveness**—The tendency to respond to certain harmless sensations as if they were dangerous or painful.

**Sensory Diet**—The multisensory experiences that one normally seeks on a daily basis to satisfy one’s sensory appetite; a planned and scheduled activity program that an occupational therapist develops to help a person become more self-regulated.

**Sensory Integration Treatment**—A technique of occupational therapy which provides playful, meaningful activities that enhance an individual’s sensory intake and lead to more adaptive functioning in daily life. The emphasis is on improving sensory-motor processing rather than on skill training.

**Sensory Integration**—The ability to receive input from the senses, to organize it into a meaningful message, and to act on it.
Sensory Modulation Disorder—The inability to regulate and organize the degree, intensity, and nature of responses to sensory input in a graded and adaptive manner.

Sensory Processing Disorder (SPD)—Difficulty in the way the brain takes in, organizes and uses sensory information, causing a person to have problems interacting effectively in the everyday environment. Sensory stimulation may cause difficulty in one’s movement, emotions, attention, relationships, or adaptive responses.

Sensory-motor—Pertaining to the brain-behavior process of taking in sensory messages and reacting with a physical response.

Sensory—Relating to the senses.

Severe TBI—Traumatic brain injury characterized by twenty-four or more hours of coma, as defined by the International Classification of Diseases. See also Mild TBI; Moderate TBI.

Shaping—Promptly and generously enforcing, through rewards and praise, each step a child takes towards acquiring a new skill. Eventually, reinforcement is offered only when the child’s actions approximate the actual behavior you wish to create, or shape.

Shearing—A brain lesion that results from abrupt deceleration in movement; tears in nerve fibers, especially axons, throughout the brain’s white matter.

Short-Term Memory—Believed to occur as patterns of electrical signals among neurons, this type of memory is not permanent. It lasts just a few seconds, though it can be extended indefinitely with rehearsal.

“Silent” Aspiration—Refers to a situation in which an individual is unaware that food or fluid has gone “down the wrong way” and does not cough enough to regurgitate it. This can occur after TBI, when muscles involved in swallowing can be weak and uncoordinated.

Skull Fracture—A break in the bony framework of the head that protects the brain.

Social Worker—A professional who helps families acquire the special services and funding they require for their child with a disability or mental disorder. They may also engage in family therapy with the goal of increasing positive communication and interaction within the family.

Spasticity—A type of high tone, or stiff muscle tone, that is “rate dependent,” meaning the faster you stretch a muscle by moving it, the higher (tighter) the tone becomes.

Spatial—Existing or happening in space.

Special Education—Specialized instruction to address a student’s educational disabilities, determined by a multidisciplinary assessment. Instruction must be precisely matched to the child’s educational needs and adapted to his learning style.
**Speech- Pathologist (SLP)**—A professional who provides speech-language therapy (SLP), which is treatment designed to improve speech and language development, as well as oral motor abilities. Also known as Speech/Language Pathologist or Speech and Language Pathologist.

**Speech**—The process of producing sounds and combining those sounds into words and sentences for the purpose of communication. Articulation, phonation, and respiration are necessary for effective speech.

**Spinal Cord**—The thick band of nerve tissue of the central nervous system that originates at the medulla oblongata and extends the length of the back; carries all of the messages, including motor and sensory impulses, between the body and the brain.

**Spinal Tap**—The process of using a needle, inserted into the back below the level of the spinal cord, to extract cerebrospinal fluid.

**Standard Score**—A numerical score that is evaluated as being below average, low average, average, high average, or above average, depending upon the degree to which the score differs from the mean (average) score. Formal standardized tests, which are mathematically adjusted according to standard score, are constructed so that a score of 100 is exactly average.

**Standing Board**—A device that provides a person who is unable to stand on his own with enough postural support to stand upright.

**Stereotypical Behavior**—Nonproductive, repetitive, and habitual actions often associated with autism.

**Stimulus**—A physical object or environmental event that may trigger a response or have an effect upon the behavior of a person. Some stimuli are internal (earache pain), while others are external (a smile from a loved one).

**Stoma**—A hole or opening.

**Strabismus**—A condition in which both eyes cannot focus on the same point because one eye is deviated outward, inward, and/or upward. This results in double vision.

**Subarachnoid Hemorrhage**—Bleeding under the arachnoid layer of the meninges into the cerebrospinal fluid.

**Subarachnoid**—The space occupied by cerebrospinal fluid, located between the meninges, arachnoid, and pia mater.

**Subdural Hematoma**—Bleeding under the dura mater.

**Subluxation**—A partial dislocation of a joint.

**Sulci**—Grooves on the surface of the right and left hemispheres of the cerebrum.
Sustained Attention—The ability to keep responding consistently for the amount of time necessary to complete an age-appropriate task. *See also* Selective Attention.

Symptom—An indication of a disease or disorder that is noticed by a patient and serves to help make a diagnosis.

Symptomatic Treatment—Treating and hopefully relieving the symptoms of illness or injury without necessarily treating or curing the cause of the problem.

Tactile—Relating to touch.

Tangential Conversational Speech—Talking around a subject and switching topics frequently, leaving tangents or fragments of unfinished conversation. *See also* Confabulation; Expressive Language.

Target Behavior—A particular behavior, which is observable, measurable, and described in specific terms, that you want your child to modify or replace. *See also* ABC Method.

Task Analysis—A process in which an assignment is broken down into small, essential steps. Instructions and cues are delivered in order to make the task easier to accomplish. *See also* Chaining.

Temporal Lobe—One of the four lobes in each cerebral hemisphere that is important for memory, hearing, receptive language, and musical awareness. *See also* Hippocampus.

Thalamus—The part of the diencephalon that functions as the “relay station” and distribution center for sensations traveling from the body to the cortex.

Thrush—A yeast infection in the mouth.

Time-Out—A strategy for influencing behavior based on “time-out” from positive reinforcement. In order to stop a target behavior in progress, the child is taken to a chair or other designated area to sit quietly for a designated amount of time.

Trachea—Windpipe.

Tracheostomy—Surgical opening made through the neck with a tube inserted into the trachea to help with breathing.

Traumatic Brain Injury (TBI)—Damage to the brain, caused by and external force that can result in functional disability or social impairment.

Under arousal—A state of apathy, poor motivation, and social withdrawal; experiencing anxious, depressive symptoms and physical complaints may also be present. Also known as under activation. *See also* Over arousal.

Unilateral Visual Neglect—The tendency to ignore visual stimulation on the side of the body opposite the side of a brain lesion. This behavior cannot be explained by damage to the visual
system; the individual seems unaware of the presence of something in that half of the space and may behave as if his whole world “left or right of center” is missing.

**Vegetative State**—A rare, irreversible condition resulting from massive destruction of the cerebral hemispheres. The individual shows no awareness of internal or external events, but sleep/wake cycles may continue.

**Ventilator**—A mechanical support device that delivers oxygen necessary to sustain respiratory function.

**Ventricles**—Cavities inside the brain that normally contain cerebrospinal fluid.

**Ventricular System**—The system of ventricles or spaces within the brain that produces cerebrospinal fluid.

**Ventriculoperitoneal (VP) Shunt**—A catheter that drains fluid from the ventricles and empties into the abdominal space around the stomach and intestines, reducing the pressure on the brain; frequently used to combat hydrocephalus.

**Verbal IQ (VIQ)**—Results from the six Verbal Scales of the Wechsler Intelligence Scale for Children-Third Edition that require the understanding and use of oral language for various types of thinking and reasoning. *See also* Full Scale IQ; Performance IQ.

**Verbal**—Referring to words or speech.

**Vestibular Sense (balance and movement)**—The sensory system that responds to the pull of gravity, providing information about the head’s position in relation to the surface of the earth, and coordinating movements of the eyes, head, and body that affect equilibrium, muscle tone, vision, hearing, and emotional security. Receptors are in the inner ear.

**Vision Specialist**—A professional who assesses and treats visual difficulties as they affect a child’s school and educational activities.

**Visual Discrimination**—The ability to perceive and interpret sensory information received through the eyes and body as one interacts with the environment and moves one’s body through space.

**Visual Field**—The total area that can be seen without moving the eyes or head.

**Visual-motor Skills**—One’s movements based on the discrimination of visual information.

**Visual**—Relating to the ability to see.

**Voluntary Muscle Activity**—Movement of skeletal muscles in response to conscious, volitional processes.
**Wechsler Intelligence Scale for Children-Third Edition (WISC-III)***—The most frequently used individual test of intelligence for children, consisting of ten to thirteen (three are optional) subtests, which in turn cluster into two broad domains of ability: Verbal IQ and Performance IQ. *See also* Full Scale IQ.

**White Matter**—The parts of the brain made up of axons, which are coated with myelin. *See also* Pons.

**Working Memory**—A mental “scratch-pad” where all stored and incoming information relevant to a particular situation can be called up into consciousness, represented, combined, and manipulated. Working memory, along with impulse control, helps us organize our behavior.
References


