

Professionals Used in the Field of Brain Injury

Behavioral Optometrist – Optometrist that focuses on evaluation and treatment of visual and perceptual disorders as a result of the brain.

Case Manager/ Social Worker – Links the individual, the family, and the team members; may provide education, resources, emotional support, and discharge options; may negotiate between facility and financial resource. Responsibilities vary in different settings.

Clinical Neuropsychologist / Clinical Psychologist – Concerned with evaluating the mental functions of the patient's brain and planning training programs to help the patient's brain return to normal functioning as quickly as possible. Assists with emotional and behavioral problems.

Driving Evaluator – Can evaluate a person's current driving ability, assess driving potential and often enable the person to return to safe, independent driving. Services vary depending on the program.

Neurosurgeon – Physician specialist trained to evaluate, treat and perform surgery for injuries and disease process affecting the brain, brain stem and/or spinal cord. The neurosurgeon is a primary care physician and may sign off the case once the crisis is past or upon completion of surgical follow-up.

Neurologist – Physician specialist concerned with treating disorders of the brain, nerves, and muscles.

Neuro-Ophthalmologist – Medical specialist treating vision problems, monitoring changes in visual acuity, and other problems that may develop as a result of damage to the brain.

Physiatrist – Physician primarily concerned with evaluating the impact of the traumatic brain injury on the functioning of the patient's body (not just the brain) and helping the patient to overcome any disability that has occurred. They help to restore optimal function to people with injuries to the muscles, bones, tissues, and nervous system.

Physical Therapist – Concerned with helping the patient regain maximum functioning of body movement or preventing further deterioration of physical function in the unconscious patient. This is done initially by moving the arms and legs (called Range of Motion) and thereby exercising unused muscles.

Psychiatrist – Medical doctor specializing in diagnosis, treatment, and long term management of mental disorders. Can also manage medications.

Occupational Therapist – Concerned with helping patients with activities of daily living (ADL) and with recovering functions that help them return to gainful

employment and maximum independence.

Recreational Therapist – Utilizes recreational services for purposeful intervention in some physical, emotional, and/or social behavior to bring about a desired change in that behavior and promote growth and development of the individual. Can provide information on community resources. Can offer suggestions for the individual's leisure lifestyle.

Rehabilitation Nurses – Nurses with basic nursing skills and specialized training in rehabilitation techniques.

Respiratory Therapist – Concerned with helping the patient breathe adequately as a means of preventing further complications and/or infections. If the patient is on a respirator, the respiratory therapist is responsible for maintaining the equipment. If the patient is unable to cough up secretions, the respiratory therapist may assist by lowering the head, tapping the back, and suctioning the patient.

Speech Therapist – Concerned with helping the patient return to normal or alternative patterns of communication.

Vocational Rehabilitation Counselor – Provides quality individualized services to enhance and support people with disabilities to prepare for, obtain or retain employment.

Brain Injury Terminology

Absence Seizures: A non-convulsive generalized seizure when 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 tens of seconds, with full recovery of consciousness and no confusion. People experiencing absence seizures sometimes move from one location to another without any purpose.

Acquired Brain Injury (ABI): An acquired brain injury is damage to the brain that occurs after birth and is not related to a congenital or degenerative disorder, such as Alzheimer's disease. The damage may be caused by a traumatic (physical) injury to the head or it may be due to strokes, tumors, infections, allergic reactions, anoxia, hypoxia (oxygen deprivation), or metabolic disorders.

Activities of Daily Living (ADL): Routine activities carried out for personal hygiene and health (including bathing, dressing, feeding) and for operating a household.

Agnosia: Failure to recognize familiar objects although the sensory mechanism is intact. May occur for any sensory modality.

Anhedonia: the inability to experience pleasure from activities usually found enjoyable, e.g. exercise, hobbies, music, sexual activities or social interactions.

Anomia: Inability to recall names of objects. Persons with this problem often can speak fluently but have to use other words to describe familiar objects. See also parietal lobe.

Anosmia: Loss of the sense of smell.

Anoxia: Absence of oxygen supply to an organ.

Anoxic Brain Injury: Injury to the brain due to severe lack of oxygen. This usually happens when blood is unable to flow to the brain due to certain injuries, bleeding, or cardiac arrest.

Apathy: A disturbance of the comprehension and expression of language caused by dysfunction in the brain. Aphasia can affect your ability to express and

understand language, both verbal and written. There are several varieties of aphasia.

Aphasia: Loss of the ability to express oneself and/or to understand language caused by damage to the brain.

Apraxia: Inability to carry out a complex or skilled movement not due to paralysis, sensory changes or deficiencies in understanding.

Ataxia: A problem of muscle coordination caused by a brain lesion. Ataxia can interfere with a person's ability to walk, talk, eat, and perform other self-care task

Atrophy: A wasting away or decrease in size of a cell, tissue, organ or part of the body due to lack of nourishment or loss of nerve supply.

Attention: The ability to focus on a given task or set of stimuli for an appropriate period of time.

Blast Injuries: Injuries that result from the complex pressure wave generated by an explosion. The explosion causes an instantaneous rise in pressure over atmospheric pressure that creates a blast over pressurization wave. Injuries to organs surrounded by fluid, such as the brain and air filled organs such as the ear, lung and gastrointestinal tract are common

Brain Stem: 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).

Cerebellum: The portion of the brain (located at the back) that helps coordinate movement.

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: Trauma to the head that damages the brain but doesn't penetrate or fracture the skull.

Concussion: A blow, jarring, shaking or other non-penetrating injury to the brain which causes a temporary decrease in normal brain activity.

Confabulation: Verbalizations about people, places or events with no basis in reality. The patient appears to fill in memory gaps with plausible facts.

Cortical Blindness: Loss of vision resulting from a lesion of the primary visual areas of the occipital lobe. Light reflex is preserved.

Coup-Contrecoup: An injury to the brain that occurs when an impact or violent motion brings the head to a sudden stop, causing injury to the impact site and the opposite side of the brain. This is also known as an acceleration/deceleration injury.

Diffuse Brain Injury: Injury to cells in many areas of the brain rather than in one specific location.

Diplopia: Seeing two images of a single object; double vision. See also vision after head injury.

Disinhibition: Inability to suppress (inhibit) impulsive behavior and emotions.

Dysarthria: Difficulty in forming words or speaking them because of weakness of muscles used in speaking or because of disruption in the neuromotor stimulus patterns required for accuracy and velocity of speech.

Dysphagia: A swallowing disorder characterized by difficulty in oral preparation for the swallow, or in moving material from the mouth to the stomach. This also includes problems in positioning food in the mouth.

Executive Functions: Planning, prioritizing, sequencing, self-monitoring, self-correcting, inhibiting, initiating, controlling or altering 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: Front part of the brain; involved in planning, organizing, problem solving, selective attention, personality and a variety of higher cognitive functions.

Glasgow Coma Scale (GCS): A standardized system used to assess the degree of brain impairment and to identify the seriousness of an injury in relation to outcome.

Hemianopsia Hemianopia: Visual field cut. Blindness for one half of the field of vision. This is not the right or left eye, but the right or left half of vision in each eye. See also vision after head injury.

Hemiparesis: Weakness on one side of the body.

Hypophonia: Soft speech, especially resulting from a lack of coordination in the vocal musculature.

Hypoxia: Decreased oxygen levels in an organ, such as the brain.

Neglect: Patients with neglect often act as if portions of their world do not exist. Neglect is a heterogeneous disorder with many variations. Neglect is most commonly attributed to a disorder of spatial attention but it involves other types of disorders as well, including deficits of intention, a disinclination to move in and toward neglected space; deficits in arousal, which limit the capacity of attention and sensory integration; deficits in spatial working memory that impair visual and manual search; and alterations of psychophysical processing that may explain how much of something is neglected.

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

Nystagmus: Involuntary horizontal, vertical, or rotary movement of the eyeballs.

Occipital Lobe: Area in the back of the brain whose primary function is processing visual information. Damage to this area can cause visual deficits.

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

Paraphasia: a type of language output error commonly associated with aphasia, and characterized by the production of unintended syllables, words, or phrases during the effort to speak.

Parietal Lobe: Damage to right lobe of the brain can cause visual-spatial deficits. Damage to the left lobe may disrupt a patient's ability to understand spoken and/or written language.

Penetrating Head Injury: A brain injury in which an object pierces the skull and enters the brain tissue.

Perseveration: Refers to the inappropriate persistence of a response in a current task that may have been appropriate for a former task. Can be verbal or motor. Repetitive.

Post-Traumatic Amnesia (PTA): A period of hours, days, weeks or months after the injury when the patient exhibits a loss of day-to-day memory. The patient is unable to store new information and has a decreased ability to learn.

Post-Traumatic Stress Disorder, or PTSD: A condition where memories of traumatic events are re-lived after the fact.

Proprioception: The sensory awareness of the position of the body parts with or without movement.

Receptive Aphasia: Also known as Wernicke's aphasia characterized by difficulty understanding spoken words. The aphasic individual themselves 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.

Retrograde Amnesia: Inability to recall events prior to the accident. May be a specific span of time or type of information.

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 brain.

Sensory Integration: Interaction of two or more sensory processes in a manner that enhances the adaptiveness of the brain.

Spatial Ability: Ability to perceive the construction of an object in both two and three dimensions. Spatial ability has four components: the ability to perceive a static figure in different positions, the ability to interpret and duplicate the movements between various parts of a figure, the ability to perceive the relationship between an object and a person's own body sphere, and the ability to interpret the person's body as an object in space.

Temporal Lobes: Right temporal lobe is mainly involved in visual memory. Left temporal lobe is mainly involved in verbal memory.

Traumatic Brain Injury (TBI): TBI is defined as an alteration in brain function, or other evidence of brain pathology, caused by an external force