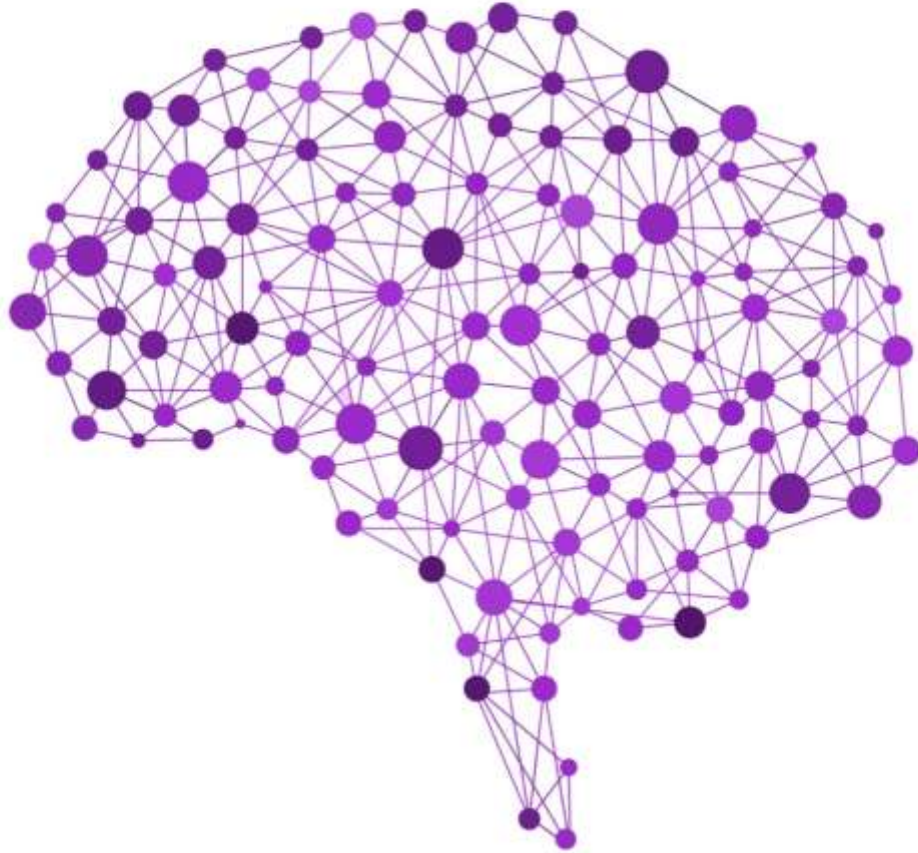


Brain Injury: What You Need to Know



A Guide for Survivors of Brain Injury,
their Loved Ones, Caregivers, and the
Professionals who Serve Them.



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Alliance
WASHINGTON

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0.1 HOW TO USE THIS MANUAL

This manual is meant to be used as a resource to answer Frequently Asked Questions heard by the staff of the Brain Injury Alliance of Washington. The book is first separated into categories: Medical, Legal, Social Services/Community Supports, and Changes after Brain Injury. In the index on the following pages, the questions are listed under their most appropriate category.

This manual does not constitute medical or legal advice. If you are in need of medical or legal advice, you must contact a medical or legal professional, respectively.

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1 MEDICAL BRAIN INJURY QUESTIONS

1.1 WHAT IS BRAIN INJURY?

Brain Injury is a life-altering event which affects every area of an individual's life - including their relationship with family members and others close to them.³⁸ According to the Brain Injury Association of America (BIAA), an **Acquired Brain Injury (ABI)** is an injury to the brain, which is not hereditary, congenital, degenerative, or induced by birth trauma.⁶ In 2011, BIAA adopted the following definition of **Traumatic Brain Injury (TBI)**: an alteration in brain function, or other evidence of brain pathology, caused by an external force. There is sometimes confusion about what is considered an ABI. TBI is a form of ABI (see below).⁶

Acquired Brain Injury

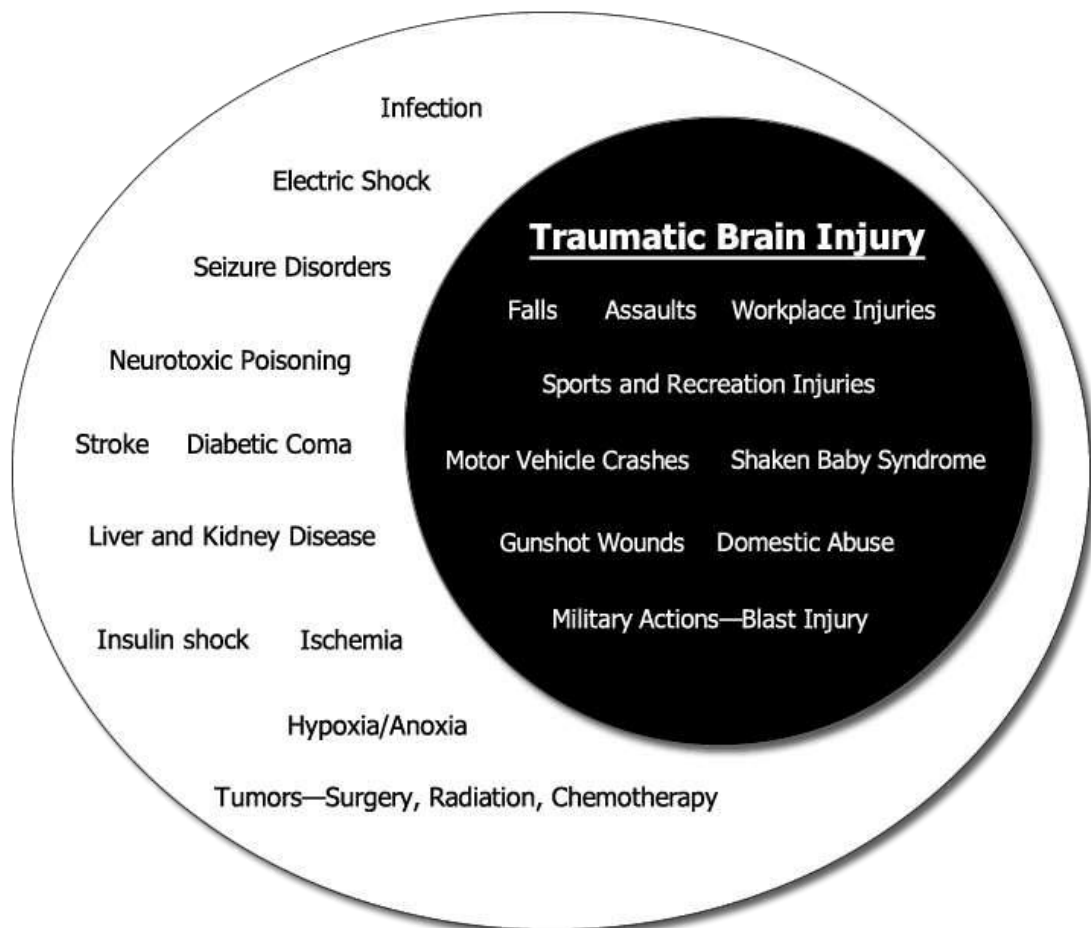


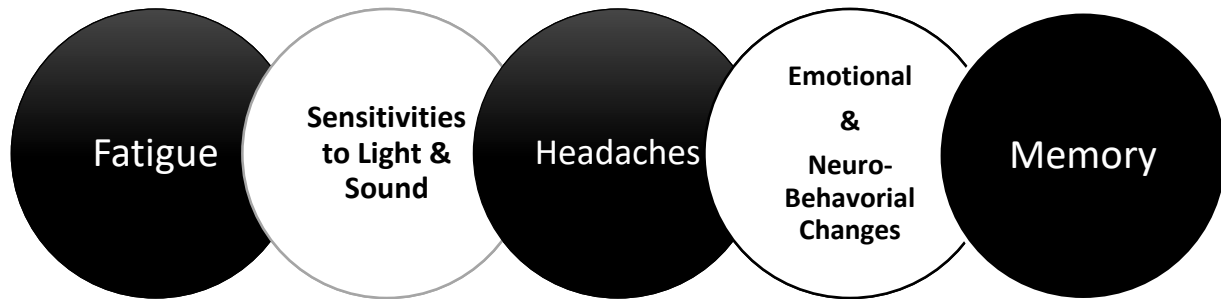
Figure 1: Based on information from "The Essential Brain Injury Guide" 5th edition: pages 2-5

According to the Mayo Clinic ³⁸, causes of injury to the brain:

| | |
|------------------------------|--|
| Aneurysm | Ballooning of a weakened wall of a vein, artery or the heart. |
| Anoxia | Complete lack of oxygen to brain tissue, which damages the cells. |
| Concussion | A temporary disturbance of brain function resulting from a fall or blow that jars the brain within the skull, also called mild traumatic brain injury . |
| Contusion | An injury on the brain's surface, similar to a bruise. |
| Diffuse axonal injury | An injury caused by pulling, stretching or tearing throughout the brain. |
| Edema | Swelling caused by excessive fluid in brain tissue. With pressure buildup, edema can result in brain cell damage and blood flow interruption. |
| Encephalitis | A potentially life-threatening infection or inflammation of the brain. |
| Hematoma | Pooled blood inside the brain tissue or on its surface. With pressure buildup, hematomas can result in brain cell damage and blood flow interruption. |
| Hemorrhage | Profuse bleeding (internal or external) caused by damage to a blood vessel. |
| Hypoxia | A reduced supply of oxygen to brain tissue, which damages the cells. |
| Ischemia | Blood flow to the brain is halted or drastically reduced. This can lead to temporary or permanent brain damage and cell death. ⁵³ |
| Meningitis | An infection and inflammation of the central nervous system that affects the membranes and cerebrospinal fluid surrounding the brain and spinal cord. |
| Skull fracture | A break in the skull (bone that covers the brain). |
| Stroke | An interruption of blood flow to part of the brain, caused by an artery blockage, hemorrhage or aneurysm. Decreased blood flow results in little or no oxygen ³⁸ reaching brain cells. |
| Tumor | An abnormal growth, or tissue that looks normal, but has no function. The tumor may be malignant (cancerous) or benign (noncancerous). Brain Injury can also occur from attempts to remove the tumor through surgery, radiation or chemotherapy. |

1.2 WHAT ARE SOME COMMON SYMPTOMS I MIGHT EXPERIENCE?

All brain injuries are unique, which means you could experience one of the symptoms listed below, or none at all. Although there is a wide variety of long term side effects associated with brain injury, individuals may experience changes right away. Immediate changes may include:



| | Mild Traumatic Brain Injury | Moderate to Severe Traumatic Brain Injury |
|--|--|---|
| Physical Symptoms³⁷ | Loss of consciousness for a few seconds to a few minutes <i>or</i> no loss of consciousness, but a state of being dazed, confused or disoriented | Loss of consciousness for several minutes to hours |
| | Nausea or vomiting | Persistent headache or headache that worsens and could last for days |
| | Headache* | Repeated vomiting or nausea |
| | Fatigue or drowsiness* | Convulsions or seizures* |
| | Difficulty Sleeping* | Dilation of one or both pupils of the eyes |
| | Dizziness or loss of balance* | Clear fluids draining from the nose or ears |
| | Sleeping more than usual* | Inability to awaken from sleep |
| | | Weakness or numbness in fingers and toes |
| Cognitive, Mental or Neurobehavioral Symptoms | Memory or concentration problems | Loss of coordination |
| | Mood changes or mood swings | Profound confusion |
| | Feeling depressed or anxious | Depression, Anxiety, Agitation, combativeness or other unusual behavior |
| | | Slurred speech |
| | | Coma and other disorders of consciousness |

| | |
|-------------------------|--|
| Sensory Symptoms | Sensitivity to light or sound |
| | Blurred vision |
| | Ringing in the ears |
| | Bad taste in the mouth |
| | Changes in the ability to taste or smell |

*These symptoms can occur both immediately following the injury, at a later on-set, or on an on-going basis.

If you or your loved one experiences these changes, it is recommended to report them immediately to your care provider and support team.

The term **neurobehavioral** refers to the relationship between the nervous system and behavior. It is often used to specify behavioral changes that occur as a result of brain injury, as opposed to any other diagnoses, such as mental health, or to infer behaviors that are governed by personal choice. When this term is used, it is referring to any behavioral changes that occur because of brain injury.⁴⁰

1.3 WHEN SHOULD I SEE A DOCTOR?

Always seek medical attention if you or a loved one has received any trauma to the head or body that concerns you or causes physical, neurobehavioral, or sensory changes. Seek emergency medical care if there are any signs or symptoms of traumatic brain injury following a recent trauma to the head.

The terms “mild,” “moderate” and “severe” are used to describe the effect of the injury on brain function. A mild injury to the brain is still a serious injury that requires prompt attention and an accurate diagnosis.³⁷ For more information, please visit page 15.

1.4 WHO CAN HELP WITH MY BRAIN INJURY?

Depending on the specified need of the individual, many professionals and supports may be utilized to assist an individual living with a brain injury. This may include, family members, children, friends, a health care team, which includes, social workers, advocates, rehabilitation teams, caregivers, case managers, resource networks, or legal representation. Therefore, it is important to ensure your support network is meeting your needs. One of the teams that can assist with building your team, is your health care team. This includes physicians, nurses, rehabilitation specialists, neurological specialists, mental health professionals, and any other individual overseeing your specialized care. The health care team is an important source of information and support to the survivor of brain injury and their family. The team can recommend a treatment plan and help you learn skills to meet specific needs. The team will vary based on the setting you are receiving care from.

1.4.1 Members of the Care Team

The most important members of the care team are the survivor of the brain injury and their support network. Active participation in treatment and rehabilitation is essential to recovery. The involvement of family members, caregivers, friends and co-workers can also help the person with the brain injury successfully return home and to the community.³⁸

At various points throughout your care, you or your loved one will meet a variety of medical and non-medical providers. Each provider is an important source of information and support to the individual living with a brain injury and their family.³⁸

Care team members may include [listed alphabetically]:

| Specialist | What They Do | Category |
|--|--|--|
| Aquatic Therapist⁷ | Occupational, physical or recreational therapist with specialized training to provide therapy aimed at increasing strength, coordination, ambulation, endurance, muscle movement, and pain reduction | Rehabilitation Medicine |
| Assistive Technology Specialist | Assistive Technology refers to specialized devices or applications that individuals can utilize to assist them in completing everyday tasks, with memory, or in other areas of daily living. A specialist provides technical assistance, training and support to individuals living with disabilities in the use of alternate media and assistive technology | Education; Rehabilitation Medicine |
| Caregiver | A family member or unpaid/ paid assistant who regularly looks after a survivor of brain injury either fulltime or during specific activities | Healthcare |
| Case Manager | A professional who serves as a liaison between an individual with long-term health issues, doctors and medical staff, the individual's family and friends, and other third parties involved to ensure the appropriate reintegration of the patient into the community | Social Services |
| Child Life Specialist | A professional who works with children and families in hospitals and other settings to help them cope with the challenges of hospitalization, illness and disability, transition to school, and promotes healthy development ³⁵ | Education; Health Care; Early Intervention |
| Clinical Nurse Specialist | A licensed nurse who helps coordinate care of individuals with brain injury and support and educate their families about the injury and recovery process | Healthcare |
| Cognitive Therapist | A professional who works with an individual to improve memory, attention, perception, learning, planning and judgment | Mental Health |
| Dentist | A skilled professional licensed to practice the prevention, diagnosis, and treatment of diseases, injuries, and malformations of the teeth, jaws, and mouth ³⁹ | Oral Healthcare |

| Specialist | What They Do | Category |
|--------------------------------------|--|--|
| Dietitian | A professional who is an expert in human nutrition and regulation of diet | Health Care; Nutrition |
| Early Intervention Specialist | According to Part C of IDEA (Individual Education Act) children under the age of five suspected of disability have rights and access to Early Intervention Specialists through their local public school district. These specialists assist with accessing and assessing the child for appropriate interventions needed to prepare them for school readiness ⁶² | Pediatrics; Health Care; Education; Early Intervention; Rehabilitation |
| Educator | There are a wide variety of specialized professionals depending on the needs of the individual. Educators exist across the professional spectrum: pediatric, nutrition, health and medical, etc. Often associated with different programs or are members of your healthcare team. If you are needing specialized assistance, you may ask if you can work or make an appointment with an educator | Dependent upon education needs |
| Endocrinologist | A specialist who diagnoses and treats diseases and conditions related to the endocrine system and the glands responsible for regulating hormones. ³¹ Seek out an endocrinologist, if you suspect damage to the pituitary gland because of a brain injury “diagnoses” | Healthcare Specialist |
| Neurologist | A physician who specializes in the brain and nervous system. They are typically a consultant rather than a primary physician following a brain injury, and are responsible for requesting brain scans and treating headaches ³² | Neurological Health Care Specialist |
| Neuro-Ophthalmologist | A neuro-ophthalmologist is a doctor who specializes in visual problems that relate to the nervous system. This includes loss of sight due to injury to the brain or the optic nerves which transmits visual signals from the eyes to the brain. Such injury can be caused by trauma, inflammation, strokes, tumors, toxicities and infections ⁶⁶ | Neurological Health Care Specialist; Vision |
| Neuro-Otologist | Neurotology or neuro-otology is a branch of clinical medicine which studies and treats neurological disorders of the ear. Otologist assist with dizziness, vertigo, vestibular disorders, and conditions affecting balance ³⁶ | Neurological Healthcare Specialist; Hearing |

| Specialist | What They Do | Category |
|------------------------------------|--|---|
| Neuropsychologist | A professional with training and expertise in evaluating and treating thinking, behavioral and emotional changes caused by a brain injury | Neurological Healthcare Specialist; Mental Health |
| Occupational Therapist | A professional who evaluates and treats functional abilities and thinking and perception problems. They assist in areas of thinking, and independent living skills such as dressing, bathing, cooking and managing money | Rehabilitation Medicine |
| Orthotist & Prosthetist | Health care workers who specialize in orthotics and prosthetics help patients regain their mobility by fitting them with artificial limbs (prostheses) and orthopedic braces ¹⁷ | Rehabilitation Medicine |
| Physiatrist | A physician who specializes in physical medicine and rehabilitation, including brain injury rehabilitation | Rehabilitation Medicine |
| Physical Therapist | A professional who evaluates and treats changes in physical abilities. They work to build strength, coordination, balance and flexibility | Rehabilitation Medicine |
| Psychiatrist | A medical practitioner specializing in the diagnosis and treatment of mental illness | Mental Health |
| Psychologist/Counselor | A professional who can help an individual learn coping skills, work on relationships and improve general emotional well-being | Mental Health |
| Primary care physician | A physician who can be integral in coordinating all testing and services when a physiatrist is not involved | Healthcare |
| Recreation Therapist | A professional who helps a person with brain injury explore and participate in leisure activities | Rehabilitation Medicine |
| Rehabilitation Nurse | A nurse with training and expertise in brain injury rehabilitation and discharge planning | Rehabilitation Medicine; Healthcare |
| Rehabilitation Psychologist | A professional who assesses and treats cognitive, emotional and functional difficulties as well as helping people overcome barriers to participation in life activities. Additionally, they assist with managing behavioral issues/outcomes. | Mental health; Rehabilitation Medicine |
| Respiratory Therapist | A clinician trained in advanced airway management, establishing and maintaining the airway during management of trauma and may administer anesthesia for surgery or conscious sedation ²⁹ | Pulmonary Medicine |
| Sleep Doctor | A specialist who is devoted to the diagnosis and therapy of sleep disturbances and disorders | Sleep Medicine |

| Specialist | What They Do | Category |
|--|--|---|
| Social Worker | A professional in the hospital and outpatient settings who help guide the adjustment to brain injury. Social workers help with the transition from the hospital to the community, which includes but is not limited to: discharge planning, financial resources, community resource referrals. Social workers may also assist with stress management and the development of effective coping and adjustment strategies | Social Services |
| Speech Language Pathologist or Speech Therapist | A professional who evaluates and treats communication, thinking problems, and swallowing problems. They provide cognitive rehabilitation, focusing on the ability to form words and communicate. If needed, they help with identifying and using special communication devices. Speech Language Therapists are instrumental in the evaluation and treatment of swallowing disorders (dysphagia) | Rehabilitation Medicine |
| Spiritual Advisor | A Spiritual Advisor, which works to include members of the clergy or religious organizations, can assist with the support of the individual based on their beliefs | Spiritual/Religious |
| Vocational Rehabilitation Counselor | Professionals assist in guiding the individual with their employment goals as well as provide counseling, training and specialized job placement for the vocational rehabilitation of individuals with physical or mental disabilities, blindness or visual impairments ⁵² | Rehabilitation Medicine; Occupational Medicine |

1.4.2 Brain Injury Continuum of Care

After learning about members of the team, it is important to understand the **Continuum of Brain Injury Care** to best understand where you may encounter these providers. The continuum of brain injury care shows the varied nature of brain injury and the unique responses to an injury result in a broad range of treatment requirements.

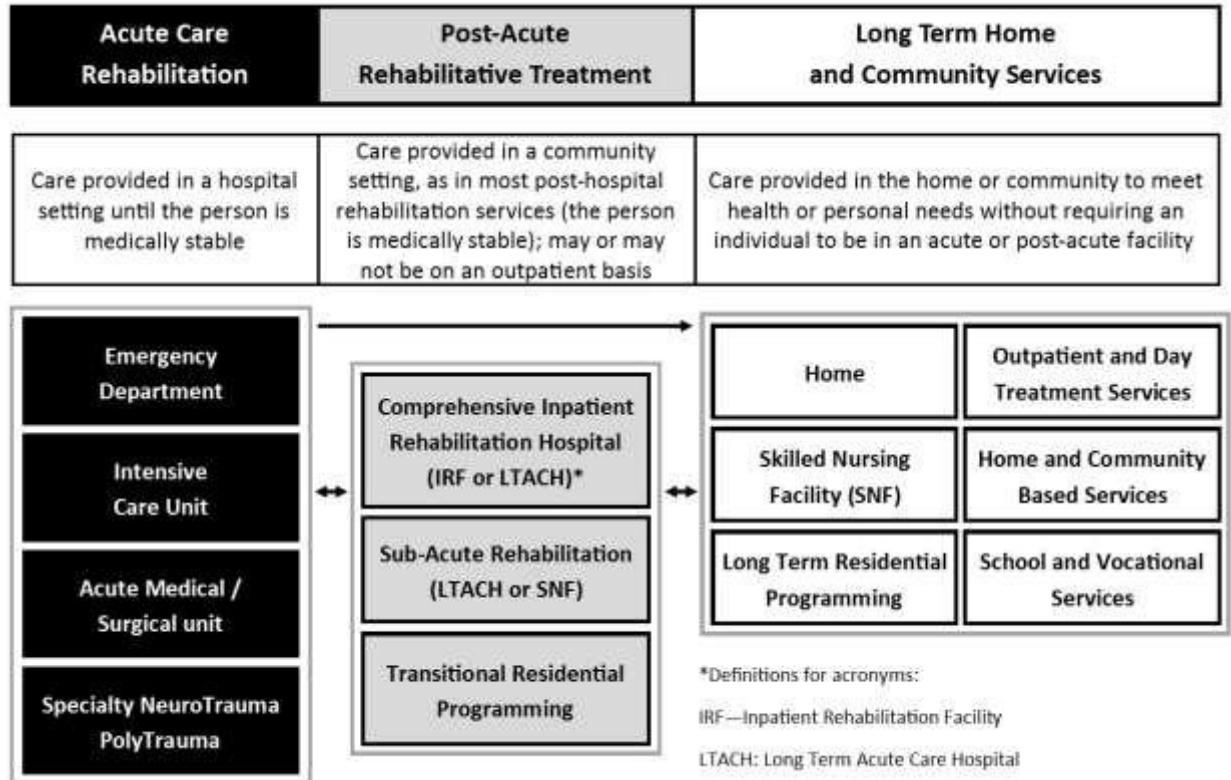


Figure 2: From "The Essential Brain Injury Guide" 5th Edition: pg. 13

Individuals typically progress through the continuum from left to right. That is, they move from acute care to rehabilitation to home and community-based settings. However, not all individuals are diagnosed in acute settings, and brain injury recovery is not always linear. The two-way arrows in this diagram indicate that individuals move back and forth across the continuum based on their unique treatment needs. Individuals can also move from one setting to another within each component of the continuum. ²

1.4.3 Treatment for Mild Traumatic Brain Injury/Concussion

Concussion management varies by each individual patient, and may not require specific treatment other than rest. However, **it is very important to follow your health care provider's instructions for rest, and to apply a gradual return to normal activity after a concussion.** For more information on pediatric concussion management, please call the Brain Injury Alliance of Washington at 1-877-982-4292.

While not comprehensive, here are some basic reminders to assist you in your recovery:

- If a person resumes normal activities before their concussion is healed, the healing process may take longer and present additional pain.
- Activities such as checking Facebook, being on your phone, concentrating, completing homework, or working can fatigue the brain although they are not physically demanding.
- Sports and other related activities should not be resumed until the patient is 100 percent symptom free, and no longer taking medications (over the counter pain relievers such as acetaminophen or ibuprofen included) and is cleared by a medical professional.
- It is best practice to minimize exposure to activities that could result in a second concussion especially during the recovery period.
- Individuals who experience a second concussion before their first has healed run risk for Second Impact Syndrome, which can have fatal effects.
- Post-Concussion Syndrome occurs when symptoms such as headaches, dizziness, difficulty with concentration, emotional irritability, and other symptoms of concussion occur after the recovery period has lapsed.
- Alcohol and other drugs may slow recovery time and increase an individual's chance of re-injury.

1.5 HOW SEVERE IS MY BRAIN INJURY?

“Severity of Injury” refers to the degree or extent of severe brain tissue damage. The degree of damage is estimated by measuring the duration of loss of consciousness, the depth of coma and level of amnesia (memory loss), and through brain scans.³⁷

| |
|---|
| Mild TBI |
| Can have either brief or no loss of consciousness and its presentation may demonstrate vomiting, lethargy, dizziness, and inability to recall what happened. ² |
| Moderate TBI |
| Will be marked by unconsciousness for any period, up to 24 hours, will have neurological signs of brain trauma, including skull fractures with contusion or bleeding and may have focal findings on an electroencephalograph (EEG) or computer tomography (CT) scan. ² |
| Severe TBI |
| Marked by a period of loss of consciousness of 24 hours or greater. ² |

1.5.1 What Is A Coma?

A coma is the prolonged period of unconsciousness immediately following a brain injury. In this sleep-like state, there is no speech, the eyes are usually closed, and there is no response to commands. However, a person in a coma may demonstrate a simple reflex in response to touch or pain. The individual may react to pain by groaning or moving, but will have no memory of the pain.⁵¹

It may also appear that the individual is showing signs of hearing and understanding. Often these are signs of simple reflexes. It may be some time before a patient show signs of processing information. However, it is suggested that people talk about or to the individual as if they could hear and understand what is being said.⁵¹

There are several levels of coma. Professionals measure coma levels by the progression of responsiveness of the individual. In the acute phase of brain injury, the Glasgow Coma Scale is used. As the individual improves or stabilizes, the Rancho Los Amigos Scale is used to measure levels of cognitive (understanding and reasoning) thinking.⁵¹

For more information on how the severity of brain injury is assessed, please visit:

<http://www.biausa.org/about-brain-injury.htm#severity>

1.6 WHAT TESTS ARE AVAILABLE FOR BRAIN INJURY

The types of testing for a diagnosis and prognosis of brain injury can be broken down into four major categories: injury severity measurements, neuro-imaging, neuropsychological assessments, and speech and language tests.¹⁴

1.6.1 Injury Severity Measurements

Severity of injury refers to the degree or extent of brain tissue damage. The degree of damage is estimated by measuring the duration of loss of consciousness, the depth of coma and level of amnesia (memory loss), and through use of brain scans.

It is difficult to predict the outcome of a brain injury in the first hours or days after it occurs. Although there are general observations that tell us an “average” outcome, no one can specifically predict the effect of a brain injury. In general, the longer the coma lasts, the less likely the individual is to fully recover. The effect of a brain injury may be unknown for months or even years. For this reason, the doctor may answer the question, “when will I recover, or will there be long term side effects,” with “wait and see”. This answer can be difficult to accept, but it is often the most accurate, since each brain injury is unique and doctors cannot be as precise nor predict outcome.

1.6.1.1 Glasgow Coma Scale

The Glasgow Coma Scale (GCS) is a neurological assessment scale to objectively measure level of consciousness following a head injury.

| Behavior | Response | Score |
|----------------------|------------------------------------|-----------|
| Eye Opening Response | Spontaneously | 4 |
| | To speech | 3 |
| | To pain | 2 |
| | No response | 1 |
| Verbal Response | Oriented to time, place and person | 5 |
| | Confused | 4 |
| | Inappropriate words | 3 |
| | Incomprehensible sounds | 2 |
| | No response | 1 |
| Movement Response | Obeys commands | 6 |
| | Moves to localized pain | 5 |
| | Flexion withdrawal from pain | 4 |
| | Abnormal flexion (decorticate) | 3 |
| | Abnormal extension (decerebrate) | 2 |
| | No response | 1 |
| Total Score | Mild | 13-15 |
| | Moderate | 3-8 |
| | Severe | 3 or less |

Individuals in a deep coma score low on aspects of functioning, while those less severely injured or recovering from coma score high. A GCS score of 3 indicates the deepest level of coma, describing an individual who is totally unresponsive. A score of 9 or more indicates that the individual is no longer in a coma, but not fully alert. The highest score (15) refers to an individual who is fully conscious. The GCS is done at intervals in the neuro-intensive care unit to document recovery.

1.6.1.2 Ranchos Los Amigos Scale

The Rancho Los Amigos Scale is an instrument used to track recovery from brain injury. It is most helpful in assessing the patient in the first weeks or months following the injury, because it does not require the cooperation of the individual with brain injury. Additionally, the Rancho Levels are based upon observations of the individual's responses to the world around them. It provides insight into the expected progression during recovery and rehabilitation.

Below is a description of the eight Rancho Levels, which detail how families interpret the behaviors demonstrated by their family member following brain injury:

- I. **No Response**
The individual is in a deep sleep and unresponsive to stimuli.
- II. **Generalized Response**
The individual reacts inconsistently and without purpose to stimuli in a nonspecific manner. Responses are limited and often the same, regardless of stimuli presented.
- III. **Localized Response**
The individual's responses are specific, but inconsistent, and are directly related to the type of stimulus presented, such as turning their head toward a sound or focusing on a presented object. They may follow simple commands in an inconsistent and delayed manner.
- IV. **Confused-Agitated**
The individual is in a heightened state of activity and severely confused, disoriented and unaware of present events. Behavior is frequently bizarre and inappropriate to their immediate environment. They are unable to care for themselves. If not physically disabled, they may perform automatic motor activities such as sitting, reaching and walking as part of their agitated state, but not necessarily as a purposeful act.
- V. **Confused-Inappropriate, Non-Agitated**
The individual appears alert and responds to simple commands. More complex commands, however, produce responses that are random and without purpose. The individual may show some agitated behavior; it is in response to external stimuli rather than internal confusion. The individual is easily distracted and generally has difficulty in learning new information. They can manage self-care activities with assistance. Their memory is impaired and verbalization is often inappropriate.
- VI. **Confused-Appropriate**
The individual shows goal-directed behavior, but relies on prompting for direction. They can learn former skills, such as activities of daily living, but memory problems interfere with new learning. They have a beginning awareness of self and others.
- VII. **Automatic Appropriate**
The individual goes through a daily routine automatically, but performs tasks in a mechanical

manner. They have shallow recall of activities and superficial awareness, but lack insight to their condition.

VIII. **Purposeful Appropriate**

The individual is alert, oriented, and can recall and integrate past and recent events. They can learn new activities and continue in-home and living skills, though deficits in stress tolerance, judgment, abstract reasoning, social, emotional and intellectual capacities may persist.

The Rancho Los Amigo Hospital has created a family guide that is helpful:

http://file.lacounty.gov/SDSInter/dhs/218115_RLOCFOriginalFamilyGuide-English.pdf

1.6.2 Neuro-Imaging

Neuroimaging can be a useful tool in detecting physical abnormalities in the brain. Most individuals with a severe brain injury will show an abnormality in a neuro-imaging test. However, this is not always the case. It is important to be aware that neuro-imaging scans cannot detect **all types** of brain injuries, so **it is possible** to have a severe brain injury and a normal brain scan result.

1.6.2.1 *Computerized Tomography (CT) Scan*

A computerized tomography (CT) scan uses x-ray beam technology to create a computerized image of the brain one section or slice at a time. CT imaging is now the standard of care for a person who has sustained a significant head injury to determine if a skull fracture has occurred. A CT image will determine whether there is hemorrhaging or a blood clot forming, brain swelling, or even if a foreign object has penetrated the brain.

CT imaging is very fast and can create images of the skull and brain within minutes, making it the perfect method for a first scan of a person who has sustained a head injury.

1.6.2.2 *Magnetic Resonance Imaging (MRI) Scan*

Magnetic resonance imaging (MRI) uses magnets and radio waves to produce a more detailed image than CT scans. An MRI likely would not be used as part of an initial brain injury assessment because it takes too long to complete, although it may be used in follow-up examinations.¹⁵

1.6.3 Functional Magnetic Resonance Imaging (fMRI)

Functional magnetic resonance imaging (fMRI) is a technique for measuring and mapping brain activity that is noninvasive and safe. It is being used in many studies to better understand how the healthy brain works, and in a growing number of studies it is being applied to understand how that normal function is disrupted in disease.⁵⁹

1.6.4 Neuropsychological Assessments

Cognition describes the processes of thinking, reasoning, problem solving, information processing, and memory. Most individuals with severe brain injury suffer from cognitive difficulties, including the loss of many higher level mental skills. Neuropsychological assessments are often used to obtain information about cognitive abilities. These tests are specialized task-oriented evaluations of human brain-behavior relationships, evaluating higher cognitive functioning as well as basic sensory motor processes.¹⁶

Testing by a neuropsychologist can assess the individual's cognitive, language, behavioral, motor and executive functions and provide information regarding the need for rehabilitative services. For this assessment, a neuropsychologist reviews the case history and hospital records of the individual, and

interviews the individual and their family. The neuropsychologist acquires information about who the individual was before their injury, based on aspects like school performance, habits, and lifestyle to detail which abilities remain unchanged as well as areas of the brain that are adversely affected by the injury and how the injury is expected to impact the individual's life.¹⁴ In addition, neuropsychological assessments may detect changes in mild brain injuries, which can be helpful in accessing supports, with diagnoses, and obtaining specialized care.

1.6.5 Physical & Functional Capacity Evaluations (FCE)

A Functional Capacity Evaluation (FCE) provides a comprehensive evaluation that measures strength, endurance, physical demand work level and positional tolerance. The data gathered through this evaluation objectively defines the injured employee's physical capabilities.⁴⁹

The FCE is an important tool used to assist employers, physicians, insurance companies, attorneys, case managers and vocational consultants to determine safe, functional levels for an individual to either return to work or to establish functional ability. The evaluation assists referral sources by offering information for adjudication of claims in short/long-term disability, provides return-to-work capabilities and determines ability levels for liability cases using appropriate medical standards.⁴⁹

1.6.6 Speech and Language Tests

A speech-language pathologist completes a formal evaluation of speech and language skills, including an oral motor evaluation of the strength and coordination of the muscles that control speech, understanding and use of grammar and vocabulary, as well as reading and writing. Social communication skills are evaluated with formal tests and role-playing scenarios. If an individual has problems with swallowing, the speech-language pathologist will make recommendations regarding management and treatment to ensure the individual is able to swallow safely and receive adequate nutrition.

1.6.7 Complementary Alternative Medicine, Alternative Treatments & Alternative Therapy

“Alternative Therapy”, “Alternative Treatment” or “Complementary Alternative Medicine” are three terms often used to describe nontraditional methods of wellness intervention provided outside the traditional medical model of care. Examples of this are: acupuncture, hyperbaric treatment not covered by approved diagnoses, cranial sacrum therapy, etc. It is important to exercise caution when confronted with negative and positive recommendations (what is right for one person, may not be for another). Consult your health and support team for informed opinions, and exercise due diligence (do your research) to be sure, you have chosen the best treatment plan for your recovery.

1.6.8 Making an Informed Decision

Often the term “Alternative” specifically defines services that extend beyond the normal scope of traditional rehabilitative medicine, medical model of care, health & wellness, or the scope of mental health. For example, an individual might find it useful to engage in therapy that is creative based (Art Therapy), or choose a creative process to help relearn balance and coordination (Music Therapy). Both of which have strong foundations in research and are supported by major institutes for higher learning. In addition, individuals who practice these various types of therapies (see list below for additional resources) are licensed professionals who meet the state guidelines for therapy/counseling and have a minimum of a Graduate Degree in their respective program. However, this is not true for all.

On the other hand, Alternative Treatments/Therapies can also include specific interventions (meditation instructors; acupuncturist; etc.) that are carried by professionals accredited through specific training programs in their field, preceptorships, or through forms of self-education and combined experience. Some professional titles that fall under this category are not required to obtain state licensure to practice, or have proof of formal education to practice. Therefore, it is important in all cases to gain a comprehensive understanding of an individual’s education, training and scope of practice before consenting to care.

1.6.9 Alternative Intervention & Therapy for Brain Injury: The Bottom Line

Minimal research has been completed on the effectiveness of Complementary or Alternative Medicine (CAM), such as acupuncture, for treating some of the effects of brain injury. The Brain Injury Association of America reports that some research indicates benefits from acupuncture and Hyperbaric Oxygen Therapy (HBOT - which involves breathing pure oxygen), especially when given very soon after a severe brain injury. However, studies on CAM therapies for brain injury are very small or otherwise limited, so more research is necessary to prove or disprove the usefulness of such treatments for brain injury.

Based on anecdotal evidence provided by those seeking services with BIAWA, the following therapies have been beneficial for some individuals throughout their recovery:

| Treatment | Description |
|-----------------------------|--|
| Acupuncture | A therapeutic approach designed to provide relief by inserting one or more needles into specific areas of the body. ¹³ |
| Chiropractic Services | Chiropractors believe that there is an inner link between disease and musculoskeletal function (bones and nerves). They provide holistic treatment of musculoskeletal disorders, which include diet and nutrition consults, joint manipulation and mobilization, massage, exercise, physical therapy and remedies for home care. ³³ |
| Craniosacral Therapy | A holistic healing practice designed to provide balance to the craniosacral system, which includes bones, nerves, fluids, and connective tissues of the cranium and spine. ⁹ |
| Hyperbaric Oxygen Therapy | Hyperbaric Oxygen Therapy, commonly referred to as HBOT, utilizes a hyperbaric oxygen chamber (think deep sea diving) to allow individuals to breathe 100% oxygen at a greater atmospheric pressure. ¹⁰ The FDA has approved HBOT as a curative method for 13 conditions. Currently, brain injury is not one of them. ¹⁰ |
| Massage Therapy | Massage Therapy is the manual manipulation of soft tissues intended to promote health and well-being. ⁴³ |
| Mindfulness & Meditation | A form of meditation or induced relaxation that focuses awareness on breathing and encourages positive attitudes to achieve a healthy, balanced mental state. ²⁴ The Brain Injury Alliance additionally focuses on similar core ideals within their Brain Health & Wellness program, which offers non-clinical wellness and life skills classes specifically designed for survivors of brain injury and their support system. |
| Equine Therapy/Hippotherapy | The use of horseback riding as a therapeutic or rehabilitative treatment, especially as a means of improving coordination, balance and strength. ⁴⁵ |

| | |
|-------------------------------|---|
| Animal-Assisted Therapy (AAT) | A therapeutic intervention carried out by a licensed practitioner to guide patient-animal interactions to achieve specific, therapeutic goals This is not to be confused with a service animal. Please see page 22 for further details. ⁴⁴ |
| Art Therapy | Encourages individuals to express and understand emotions through artistic expression, creative process and artistic mediums. ²⁸ |
| Music Therapy | A rehabilitative therapy, designed to use the rhythm of music to help patients overcome physical, emotional, intellectual and social challenges. ⁵⁸ |
| Yoga | A spiritual and ascetic discipline that includes breath control, simple meditation, and the adoption of specific bodily postures to improve health and support relaxation. ⁴⁷ |

1.7 WHAT TOOLS ARE AVAILABLE FOR LIFE WITH BRAIN INJURY?

1.7.1 Medication

Medication may be used to treat symptoms of brain injury and to lower the risks associated with it. These medications may include, but are not limited to:

| Medication Type | Medication Use |
|------------------------|--|
| Anti-Anxiety | To lessen feelings of nervousness and fear |
| Anticoagulants | To prevent blood clots |
| Anticonvulsants | To prevent seizures |
| Antidepressants | To treat symptoms of depression and mood instability |
| Botox Injection | To temporarily paralyze muscle spasms and reduce migraines ³⁴ |
| Diuretics | To help move fluid that can increase pressure inside the brain |
| Muscle Relaxants | To reduce muscle spasms |
| Stimulants | To increase alertness and attention |

If you would like more information about any of these medications or to find out if they are appropriate for you, please speak with a member of your health care team.

1.7.2 Service, Therapeutic and Emotional Support Animals

Differentiating between, service animals, therapy animals and emotional support animals is not a matter of splitting hairs or political correctness. Each of these animals has a very different job from the others and the terms are not interchangeable.

| Characteristics | Service Animal | Therapy Animal | Emotional Support Animal |
|---|-----------------------|-----------------------|---------------------------------|
| Handlers’ rights to be accompanied by these animals in establishments open to the public are protected by the Americans with Disabilities Act. | X | | |
| Animals must be temperamentally sound to tolerate a wide variety of experiences, environments and people. | X | X | |
| These animals may live with their disabled owners in housing with a “no-pets” policy in place. | X | | X |
| Animals visit hospitals, schools, hospices and other institutions to aid in psychological or physical therapy. | | X | |
| Handlers encourage these animals to accept petting and socialize with other people while they’re on-duty. | | X | |
| Animals are individually trained to perform tasks or do work to mitigate their handlers’ disabilities. | X | | |
| Petting, talking to or otherwise distracting these animals can interfere with their job and pose a danger to the animal and handler. | X | | |
| The animal’s primary functions are to provide emotional support, through companionship, to their disabled owners. | | | X |
| Subject to state laws regarding animals licensing and vaccination. | X | X | X |
| These animals enjoy plenty of off-duty time, during which they rest, take part in fun activities and get to act like a regular pet. | X | X | X |

1.7.2.1 Service Animals

Service animals are individually trained to perform tasks and do work that mitigate their handlers’ disabilities. Service animals are much more than highly trained companions. Working as part of a team with their human partners, service animals help them attain the safety and independence from which their handlers’ disabilities would otherwise limit them.

The Americans with Disabilities Act (ADA) protects the rights of people with disabilities to be accompanied by their service animals in public places, like businesses, restaurants, grocery stores, hotels, etc. Additional acts of law, like the Department of Transportation (DOT) Air Carrier Access Act, Department of Justice (DOJ), Housing and Urban Development (HUD), Fair Housing Act and Federal Rehabilitation Act protect the rights of people with disabilities to be accompanied by their service animals under a wide variety of circumstances under which the ADA may not be applicable.

For more information and legal guidelines about Service Animals under the ADA, please visit https://www.ada.gov/regs2010/service_animal_qa.html

1.7.3 Mobility Equipment

Mobility adaptive equipment are prescribed devices used to assist an individual achieve mobility if motor function has been compromised or unusable. If an individual suffers from restricted motor function, the following assistive devices could be instrumental in helping the individual regain all or partial mobility.⁴⁶

Below is a list of the most common assistive devices utilized by individuals wishing to regain mobility. However, please be aware this is by no means a comprehensive or prescriptive list. Please contact your healthcare team to discuss what further options may be available to you.

| | |
|--------------|--|
| Bathtub Seat | An assistive device that enables individuals with functional limitations to bathe. ¹⁹ |
| Cane | An assistive device that provides support and balance for ambulation (walking) and standing. ²⁰ |
| Crutches | Crutches are devices used to transfer body weight from the lower body to the upper body. Crutches are used when an individual's lower body is not completely immobilized, but impaired. ²¹ |
| Gait Trainer | A gait trainer is a device that assists individuals who are unable to walk independently as part of gait training. They differ from a standard "walker" and are used for all ages, including pediatrics. ²² |
| Grab Bar | A fixed bar that assists in prevention of falls while mobile. |
| Lift Chair | A specialized chair featuring a powered mechanism that gradually lifts the sitting individual into the stand position. ²³ |
| Orthotic | Orthotic devices are used to align, brace, or correct deformities. Orthoses also help to improve the movement of one's joints, spine, or limbs. ¹⁷ |
| Prosthetics | Prosthetic devices or artificial devices, are used to replace a missing body part caused from either an illness, accident, or birth defect. ⁵⁴ |

| | |
|----------------------|---|
| Standing Frames | A form of assistive technology that provides alternative positioning to sitting in a wheelchair by supporting the individual in a standing position. ²⁵ |
| Walker | An assistive device used to support individuals with walking (balance, taking steps, learning to walk, coordination, weight support) who need additional support beyond a cane or crutch. ²⁶ |
| Wheelchair | A manually propelled chair, consisting of seat, platform, and wheels, which enables an individual who cannot walk to achieve mobility/locomotion. ²⁷ |
| Wheelchair (powered) | A powered propelled chair (designed for ease or limited function of the upper extremities) enables an individual who cannot walk, due to illness, injury, or disability, to achieve mobility without the use of manual power. ⁴⁶ |

2 LEGAL BRAIN INJURY QUESTIONS

2.1 WHO CAN MAKE DECISIONS FOR ME AFTER A BRAIN INJURY?

Having difficulty with making decisions is one of the most common problems individuals face after suffering a brain injury. It is one element of a broader set of mental skills called **executive function**: a specific set of skills that enable us to deal with problems that arise in everyday life and to cope with new situations. As we all are aware, everyday life is full of situations in which we must make decisions. Some are minor. “Which toothpaste will I buy?” “What will I have for dinner tonight?” Some are major. “Will I change my job?” “How will I pay rent?” No matter the level of severity, it is our executive functioning that allows us to make these decisions, unless it is impaired.

Decision making involves a lot of brain work. This means that if any one of these processes is affected by brain injury, then decision making may be impaired. Some individuals may find it difficult to make any decisions at all. Other individuals may become impulsive, making hasty decisions without the ability to think things through. Poor judgement in relationships, with money, or in business, can have devastating consequences for the individual and their family.

If the individual is unable to make decisions, a legal representative can be appointed to make decisions for the individual with brain injury.³⁰

2.1.1 Guardianship

A guardianship is a legally enforceable arrangement under which one individual, the guardian, has the legal right and duty to care for another, the ward.

A **Guardian of the Person** manages and makes decisions about the personal affairs of the ward ensuring that the ward has food, shelter, and clothing as well as medical care, education and rehabilitation. By contrast, a Guardian of the Estate manages the financial affairs and property of the ward. In a Plenary Guardianship, the guardian cares for both the personal needs and the property of the ward. Parents are the natural guardians of minors and children. Once a child reaches the age of adulthood, the “natural” guardianship of the parent dissolves unless legal action is taken.

To establish guardianship for an adult, a court must appoint a guardian and do so through the process and standards required by state law. A court may remove an inappropriate guardian by standards described in state law. The guardianship restricts the right of the ward to make certain decisions.

2.1.1.1 Limits of Guardianship

A guardian may misunderstand the scope of duty.¹ A person with a guardian does not lose basic legal rights. The limitations of guardianship must always be carefully explained and understood.¹ A guardian who is also a parent may want to limit or restrict access of the ward (a son or daughter) to an ex-husband or wife if there have been conflicts in the past.¹ If the ward chooses to have contact with this person, the ward can do so unless there is a court order restricting such access.¹ Guardianship does not necessarily extinguish the legal right of the ward, such as the rights to vote or marry.¹ A court may remove an inappropriate guardian by standards described in state law.¹

2.1.2 Power of Attorney (POA)

A power of attorney is a written document in which the "principal" (you or your loved one, for example) appoints someone else, referred to as an "agent" or "attorney-in-fact," to act for them under specified circumstances.

The principal decides how much responsibility they want the agent to have. They can give their agent a wide range of powers — the ability to access bank accounts, sign income tax returns, sell stocks and manage real estate — or they can limit that person's authority to a single transaction. You or your loved one should design the power of attorney to fit your anticipated needs.

The principal also decides when the agent's powers begin and when they end. Depending on the circumstances, you may decide to go with a conventional power of attorney, a springing power of attorney or a durable power of attorney.

2.1.3 Durable Power of Attorney (DPOA)

The durable power of attorney form for Washington allows a person to choose someone else to handle any type of monetary matter related to their personal or business finances. The person selected, or the "agent", will have the unlimited power to sell property, assets, and perform banking transactions by simply signing 'Acting as POA' under their signature.

Durable Power of Attorney begins when it is signed, and remains in effect throughout the principal's lifetime, unless cancelled. This is usually the best choice because it remains in effect even after the principal becomes incapacitated. And unlike with a springing power of attorney, no one should worry about determining when it becomes effective.

You or your loved one can continue to manage their finances even after signing a power of attorney. If at any time they become incapacitated, the agent will step in.

All powers of attorney expire at the time of the principal's death. The agent will no longer have the authority to make decisions after that time.

2.2 WHAT IF MY INJURY OCCURRED AT WORK OR ON THE JOB?

2.2.1 Washington Family Leave Act

The Washington State Family Leave Act (FLA) builds on the existing similar benefits found in the federal Family and Medical Leave Act (FMLA).⁶³

The purpose of the FLA is to allow employees leave from work for certain medical reasons, for birth or placement of a child, and for the care of certain family members (including registered domestic partners) who have a serious health condition.⁶³ The law builds on the existing similar benefits currently available under the FMLA in case the federal law changes.⁶³

An employee must work for the employer for at least 12 months, although those months need not be consecutive, before the employee is entitled to leave under the FLA.⁶³ In addition, the employee must have worked for at least 1,250 hours during the last 12 months before the leave is to commence.⁶³

In a case when an employee qualifies for FMLA (50 employees within 75 miles, one year or more tenure, and having worked 1,250 hours in the past 12 months) and the employee needs leave to care for a

registered domestic partner with a serious health condition, the employee can use up to 12 weeks of FLMA for this purpose.⁶³ Only the FMLA will run, and the employee will still have 12 weeks of FMLA available for FMLA-qualifying purposes.⁶³

If a qualifying employee exhausts all or part of their FMLA entitlement because of qualifying exigency leave, the employee may still have access to all 12 weeks of state FLMA.

2.2.2 Independent Medical Examination (IME)

The purpose of the IME is cost-containment, a purposeful effort to reduce the amount of benefits paid out for care under the Personal Injury Protection (PIP) policy or through a Labor and Industries claim.

Companies tell their clients that their medical examinations will be conducted by an independent examiner. They sometimes claim the evaluations is sought because they are “concerned” about their insured’s health and want to make sure that the treatment is effective in resolving injuries. However, the reality of the IME is quite different. It is nicknamed an “Insurance Medical Examination” or “Involuntary Medical Examination”.

Despite the obstacles presented by a pending IME, you are not powerless if you seek legal consultation before IME occurs.

Attorneys representing those with traumatic injuries know that many of these examiners are “hired guns” and their job is to find a way in which the insurer does not have to pay for treatment expenses.³

2.2.3 Worker’s Compensation (L&I)

If you are injured on the job in Washington, you are insured by the Washington State Fund, unless you are employed by one of several hundred employers who are self-insured.⁶⁴

Whether an injured worker is covered by L&I’s Washington State Fund, or a self-insured employer, he or she is entitled to no-fault accident and disability coverage.⁶⁴ This “worker’s compensation insurance” covers medical expenses and pays a portion of wages lost while an employee recovers from a workplace injury. Insurance premiums paid by both workers and employers finance these benefits.⁶⁴

L&I will pay your claim-related medical bills and will often replace a portion of your lost wages while you recover.⁶⁴ These time-loss compensation payments won’t provide you with the same income you previously received.⁶⁴

These benefits are paid only if you are unable to work for more than the three days immediately following the date of your injury.⁶⁴ Injured workers are not compensated for those first three days unless they are still unable to work on the 14th day following the injury.⁶⁴

Report your injury or exposure to your employer as soon as possible. Your employer needs to know about your condition and what caused it.⁶⁴ Otherwise, the employer may ask for the claim to be denied.⁶⁴

File your claim with L&I by completing a State Fund Report of Industrial Injury or Occupational Disease. You have three options for filing:⁶⁴

- Online at www.FileFast.Lni.wa.gov.
- By phone, toll-free 1-877-561-FILE (3453), Monday–Friday, 8am to 5pm.

- At your health care provider’s office when you are first seen for your workplace injury or condition

2.3 WHAT ARE MY RIGHTS AFTER A BRAIN INJURY?

2.3.1 Statute of Limitations

When you are injured by another, an invisible clock begins to tick. This clock is more formally known as the “Statute of Limitations.”

Failure to settle a claim or bring a lawsuit within the timeframe set by law, will extinguish the injured party’s legal rights to recover for their injuries. If the period expires, a court will dismiss the case without consideration of the case merits or the reasons for delay.

The traditional purposes of the Statute of Limitations rule were to bar claims for which evidence has been lost, memories faded and witnesses disappeared. Other justifications for such a law include allowing individuals to dispose of old records after a certain length of time; creating closure and certainty by allowing individuals to get on with their lives without legal intrusions from the past.

The length of time allowed to file a lawsuit may depend upon the state in which the injury occurred, the type of negligence involved (automobile vs professional negligence); the age of the injured party (minor vs adult); when the injury was discovered; whether the injured party or the person causing the injury dies; and whether the lawsuit includes state law, federal law or both.

Given the complexities in this area of the law and the harsh consequence of barring an otherwise valid claim, one should use caution and seek legal advice early.

2.3.2 American Disabilities Act:

The Americans with Disabilities Act of 1990 (ADA) makes it unlawful to discriminate in employment against a qualified individual with a disability. The ADA also outlaws discrimination against individuals with disabilities in State and Local government services, public accommodations, transportation and telecommunications.

If you have a disability and are qualified to do a job, the ADA protects you from job discrimination based on your disability. Under the ADA, you have a disability if you have a physical or mental impairment that substantially limits a major life activity. The ADA also protects you if you have a history of such disability, or if an employer believes that you have such a disability, even if you don’t.

To be protected under ADA, you must have, or be regarded as having, a substantial impairment, as opposed to a minor impairment. A substantial impairment is one that significantly limits or restricts a major life activity, such as hearing, seeing, speaking, walking, breathing, performing manual tasks, caring for oneself, learning, or working.

2.3.3 Reasonable Accommodation

Reasonable accommodation is any change or adjustment to a job or work environment that permits a qualified applicant or employee with a disability to participate in the job application process, to perform the essential function of a job, or to enjoy benefits and privileges of employment equal to those enjoyed by employees without disabilities. For example, reasonable accommodation may include:

- Providing or modifying equipment or devices
- Job restructuring
- Part-time or modified work schedules
- Reassignment to a vacant position
- Adjusting or modifying examinations, training materials, or policies
- Making the workplace readily accessible to and usable by people with disabilities

An employer is required to provide a reasonable accommodation to a qualified applicant or employee with a disability unless the employer can show that the accommodation would be an undue hardship—that is, it would require significant difficulty or expense.

2.3.4 Ombudsman

An ombudsman is an official appointed to investigate individuals' complaints against maladministration, especially of public authorities. In Washington State, there are several different Ombudsman offices that could be useful for an individual with brain injury.

- Washington State Long Term Care Ombudsman <http://www.waombudsman.org/>
 - Advocates for the residents of nursing homes, adult family homes and assisted living facilities. Their purpose is to protect and promote the Resident Rights guaranteed these residents under Federal and State law and regulations.
- Office of the Family & Children's Ombudsman <http://www.ofco.wa.gov/>
 - Investigates complaints in Washington State about agency actions or inaction that involve any child at risk of abuse, neglect, or other harm, as well as a child or parent involved with child protection or child welfare services.
- Governor's Office of the Education Ombudsman <http://oeo.wa.gov/>
 - Resolves complaints impartially and confidentially and works with all parties involved to find collaborative solutions focusing on the best interests of students.
- Behavioral Health Organization (BHO) Ombudsman
 - Varies based on the BHO you are involved with. Specific contact information can be found here: https://www.dshs.wa.gov/sites/default/files/BHSIA/dbh/BHO/BHO_Contacts_For_Services.pdf

2.4 WHAT TYPE OF LAWYER COULD I NEED FOLLOWING A BRAIN INJURY?

2.4.1 Worker's Compensation Attorney

Most people who are injured in workplace are unprepared for the challenges a sudden injury presents.⁸ Suffering a brain injury or dealing with the aftermath of an unexpected injury can change life in ways you might not ever have imagined.⁸ Worker's Compensation Attorneys are dedicated to helping people get the benefits and other compensation they need and deserve.⁸ Workers compensation matters are generally governed by specific rules promulgated by each state and set forth in each state's workers compensation law.⁸

In worker's compensations cases involving claims of a brain injury, it is necessary that the attorney must first be well versed in the specific rules relating to issues involving worker compensation and

appearances before the works compensation board, but further necessitates that he or she must also have knowledge of brain injury.⁸

2.4.2 Disability Law Attorney

Employment challenges frequently occur as a result of brain injury. Social and behavioral issues can interfere with an individual's ability to obtain or keep a job.⁸ If you are unable to return to work, you can apply for social security disability.⁸ In case you got denied, never take the denial by Social Security administration as the final answer.⁸ You can get help from a Social Security disability lawyer who will help with Social Security appeals on a contingency fee basis, meaning that the individual does not have to pay the attorney a fee unless he or she is successful in obtaining benefits.⁸ The fees that these attorneys can charge are limited by the rules of the Social Security administration.⁸

In many instances, the applicant is granted benefits after reconsideration or after an appeal, so it is important to pursue your rights in a timely fashion.⁸

2.4.3 Personal Injury Attorney

Laws relating to personal injury and insurance are complex and subject to frequent change, as is the specialized arena of traumatic brain injury. An attorney experienced in traumatic brain injury knows how to obtain fair and reasonable compensation for your injuries through negotiations with insurance companies and is familiar with court procedure, filing requirements, deadlines, and other details that a non-lawyer could easily overlook.

When you hire a **Personal Injury Lawyer** experienced in handling brain injury cases, all the resources and support staff of a highly-trained professional are on your side to protect your legal rights. Stress can aggravate symptoms of brain injury. With the right attorney, you can focus on your main goal of healing and getting well.

In personal injury cases, most attorneys work on a contingency fee basis. This means that the attorney agrees to provide the legal representation you need with payment for services occurring at the time of settlement or a verdict from the jury.

3 SOCIAL SERVICES/COMMUNITY SUPPORT BRAIN INJURY QUESTIONS

3.1 WHO CAN HELP ME AND MY FAMILY IN DAY-TO-DAY LIFE AFTER BRAIN INJURY?

3.1.1 Case Manager

Life changes significantly for an individual after they have acquired a brain injury. For the first time, the individual and their supports may have to utilize community, social and medical resources they have no exposure to. They may need to apply for programs, or acquire special referrals for services. Or, they may need a third voice, direction, or an advocate. Someone to assist with communication amongst the medical team, employers, school districts, and help strategize goals and oversee follow through. A case manager can assist with this.

Case management is a collaborative process of assessment, planning, facilitation, care coordination, evaluation and advocacy.² The main goal of a case manager is to locate services and supports that meet your health and safety needs. In some cases, depending on the organization or scope of the professional, case management may emphasize personal goals and help to retrieve a greater quality of life for the individual they serve. As such, case management is often goal driven and client centered. This means they assist the individual in identifying services necessary to make life functional and achieve optimal health and wellness. During the process, the case manager will walk you through the steps of completing the identified goals while also asking for active participation in the process.

Case managers come in all shapes and sizes, credentials, and with variable forms of education. Therefore, it is not uncommon that one case manager be a Licensed Social Worker and yet another has no formal education. This depends on the nature of the work, the organization, and the professional scope of services they are providing.

3.1.2 Where do I find them?

Case managers work in a variety of settings: hospitals, social service, school districts, universities, early intervention programs, rehabilitation centers, community-based organizations, primary health clinics, public health sectors, mental health, behavioral health, insurance companies, nonprofit organizations, and much more.

Case management may also be one component of a specific job function associated with different roles, such as nurses, teachers, family community coordinators, or other titles whose organization offers varied forms of case management to their clients as part of their model for quality care. For this reason, not all case managers perform the same tasks or provide the same care. Therefore, if you are needing a specific type of case management, it is best to identify an organization or department first to retrieve specialized care.

In addition, case managers withhold a wide variety of professional titles. This includes, but is not limited to the role of the Social Worker, Nurse, Resource Manager, Case Manager, Specialist, Community Coordinator, Health Advocate, Client Advocate, Counselor, Community Advocate, Family Partnership Coordinator, and much more.

Role of a Case Manager



Figure 3: Based on Information from “The Essential Brain Injury Guide” 5th Edition: Page 397

3.1.3 Vocational Support

A brain injury can cause many changes in an individual’s behavior, emotional regulation, communication, and thinking skills.³⁸ These are four areas of functioning necessary to complete everyday interactions. However, in terms of brain injury, behavior, emotional regulation, communication, and cognitive processing are often impacted by a decrease in stamina compared with high levels of fatigue that vary throughout the day. Therefore, obtaining and keeping a job can be extremely difficult for an individual who has suffered a brain injury. There are programs to assist.

Vocational Rehabilitation Counseling is a systematic process which assists individuals with physical, mental, developmental, cognitive and emotional disabilities to achieve their personal career, and independent living goals in the most integrated setting possible through the application of counseling process.⁵⁶ This counseling process involves communication, goal setting and beneficial growth or change through self-advocacy, psychological, vocational, social and behavioral interventions. The specific techniques used in this process may include, but are not limited to the following:⁵⁶

- Assessment and appraisal⁵⁶
- Diagnosis and treatment planning⁵⁶
- Career counseling⁵⁶

- Individual and group counseling treatment interventions focused on facilitating adjustments to the medical and psychosocial impact of disability⁵⁶
- Case management, referral and service coordination⁵⁶
- Program evaluation and research⁵⁶
- Interventions to remove environmental employment barriers⁵⁶
- Consultation services among multiple parties and regulatory systems⁵⁶
- Job analysis, job development and placement services, including assistance with job accommodations⁵⁶
- Provision of consultation and access to rehabilitation technology⁵⁶

Another area of Vocation Support is to enlist the aid of a **Vocational Counselor**. A Vocational Counselor is a professional who assists disabled individuals in assessing their strengths and weaknesses and selecting a job that maximizes their potential to become contributing members to that workforce. The vocational counselor works as a member of the rehabilitation team to formulate a plan designed to achieve vocational goals.⁴¹ The **Division of Vocational Rehabilitation (DVR)**, offered through the Washington State Department of Social Health Services, is an excellent resource for finding a Vocational Counselor. The purpose of DVR is to achieve a greater quality of life by obtaining and maintaining employment.¹² A DVR counselor can help you explore types of employment that best match your interests and strengths, desires for school or specialized training, and help you to achieve your goals.¹² Regardless of whether you can return to the same job held prior to brain injury, discovering how to use your talents and skills will make life more rewarding.³⁸ A DVR counselor, offers ongoing counseling, guidance, and support as you dive back into the employment field.¹² DVR is free to those who qualify and available to all counties located throughout Washington State. Please consult the Washington Department of Social and Health Services for additional information and required steps to obtain services. Or phone the Brain Injury Alliance of Washington. We can assist with the enrollment process, referral, and will work to answer any questions you may have.

Washington Department of Social and Health Services Vocational Rehabilitation Website:

<https://www.dshs.wa.gov/ra/division-vocational-rehabilitation>

3.1.4 Personal Caregiver

Brain injury can impact your ability to complete daily activities, engage in some or all facets of self-care, assess danger or what to do next, understand consequences, or be alone. As such, many individuals living with brain injury may need twenty-four-hour care. When a family member, spouse, or close friends assumes this role, they have also assumed the role as a Personal Caregiver. This shift can happen swiftly and often does not come with a manual. Being a caregiver can be overwhelming, and adapting to the lifestyle change may be challenging for you as well as your loved one.

This section is intended to help you (the caregiver) assess what next steps need to be taken and where to locate support.

When family roles shift, it can be extremely stressful. This is especially true, if you frequently try to handle everything alone, or have unrealistic expectations of the individual's recovery. Therefore, staying engaged, educated, building a support network of individuals who can support you, and remaining clear on goals as you attain them is critical. Adjusting your expectations as soon as you assume the role of

Personal Caregiver can help tremendously. After a brain injury, an individual may not be able to return to work in the same capacity as before or at all. They may have difficulty controlling their emotions or expressing what they need. The individual may not be able to make decisions, or read your emotional cues, or process information the same way. In the same respect, they may need ongoing assistance with basic tasks like grocery shopping, processing financial outcomes, dressing, meal preparation, or choosing what to wear. An individual living with a brain injury may not grasp how to assume their previous roles as a father, son, spouse, friend, mother, nurse, etc. They may have changed.

While these possible truths are overwhelming, it gives you (the caregiver) a realistic starting point. Additionally, it releases the individual now living with a Brain Injury from attempting to meet expectations they can no longer perform.

Often family members will take on the roles of providing companionship, emotional support, and physical care on top of their own employment, caring for the home, taking care of the children, etc.³⁸ Seeking appropriate options for assistance may be necessary.

We want you to know, you are not alone.

One option is the **Family Caregiver Support Program**. This is a state program for unpaid caregivers, such as family members, spouse, or children.¹¹

There are local Family Caregiver Support Program offices throughout the state staffed with caring and knowledgeable individuals who can help you:

- Find Resources¹¹
- Find Support Groups or Counseling¹¹
- Get Caregiver Training¹¹
- Get Respite Care¹¹

Another option is the **COPEs program**. This is for families that are not able to care for a loved one who requires a high level of care. Please see page 39 for additional information on this program.

Support Groups are an exceptional way to create a vibrant, positive, support network. Not only do support groups provide individuals with support from others who face similar challenges and triumphs, but they provide access to long lasting friendships. Please call BIAWA Resource Line at 1-877-982-4292 for more information.

Another prospective way to assist the caregiver with overcoming the role changes, sense of loss or grief, anger, and to help identify next steps toward healthy emotional health is to seek the counsel and advisement of a Mental health professional. They are equipped by law, education, and design to assist an individual on the role to healthy emotional health.

3.2 HOW CAN THE BRAIN INJURY ALLIANCE OF WASHINGTON SUPPORT ME AND/OR MY FAMILY AFTER BRAIN INJURY?

3.2.1.1 *Washington Brain Injury Resource Line*

The Resource Line is a statewide, toll free line for individuals needing brain injury support and resources. It is the entry point for all services offered through BIAWA.

By calling the Resource Line, we can help you by offering support, information and referrals to the following services:

- Physicians
- Attorneys
- Facilities
- Public Assistance and other Benefits
- Social Activities
- Support Groups
- Adult and Pediatric Resource Management

The Resource Line is available Monday-Friday from 9am-5pm. Please call **1-877-982-4292** to see how we can help you.

3.2.1.2 *Resource Management*

BIAWA Resource Management provides free, 1:1 support for survivors and their families, both pediatric and adult. They assist survivors, families and caregivers in assessing their current resources, meeting goals, obtaining a high quality of life and locating additional assistance. Their scope includes, but is not limited to connecting you to physicians, housing, facilities, legal aide, public assistance benefits, social engagement opportunities, support groups and school planning.



3.2.1.3 Support Groups

Support groups provide survivors of brain injury, family members and caregivers a safe space to share their stories and gain insight from individuals who share similar experiences. Additionally, they work to provide a networking opportunity, as well as a place to learn new skills and information regarding brain injury. Although the structure of each group varies, many support groups will be led by a facilitator who has a brain injury themselves while others will be facilitated by a professional. Attending a support group will help you make connections with other people who have similar concerns and needs.

There are approximately 70 brain injury support groups across Washington State.

3.2.1.4 Social Engagement

BIAWA hosts a variety of outings and activities throughout the year for our members to participate in and socialize. Social engagement and feeling like part of a community is a critical piece of healing for survivors and is a big part of the BIAWA mission.

3.2.1.5 Brain Health and Wellness

This program offers non-clinical classes such as social skills, organizational skills, relationships and communicating, exercise, and art designed to empower the participants and give them the tools to take ownership of their health and well-being.

3.2.1.6 Volunteer Opportunities

We host lots of volunteer opportunities and assign tasks based on the interests and strengths of volunteers. It's an excellent way to build skills, accountability and routine, whilst engaging with peers who share similar interests.

3.3 WHAT FINANCIAL OPTIONS ARE AVAILABLE AFTER BRAIN INJURY?

3.3.1 Supplemental Security Income (SSI)

SSI is a federal program for individuals with low incomes, who are over the age of 65, or have severe disabilities.³

- SSI provides cash benefits to those who cannot work because of their disability and meet strict eligibility requirements.
- Prior work experience is not required to receive SSI. You can also go back to work and not lose your Social Security benefits.
- Your benefits may decrease based on how much money you are making once employed again, but you will still be eligible for this financial support.

For more information on this resource and eligibility requirements, visit the Social Security Administration website at www.ssa.gov

3.3.2 Social Security Disability Income (SSDI)

A federal program for individuals who have become severely disabled and are unable to return to work for at least one year.

- Those receiving SSDI have sufficient prior work experience to have paid into the Social Security system.
- The program calculates the amount of money the individual is awarded based on their previous income.
- SSDI income is typically always greater than SSI income, although some individuals may be eligible to obtain both.

For more information on this resource and eligibility requirements, visit the Social Security Administration website at www.ssa.gov

3.3.3 Department of Social and Health Services (DSHS)

DSHS is Washington State's social service agency for children, families and adults in need. To qualify for financial assistance programs through DSHS, you must have little to no income and limited resources.

Some of the resources provided by DSHS are the following:

- Basic Food/EBT (formerly Food Stamps)
- Aged, Blind, Disabled Cash Benefits (ABD)
- Temporary Assistance for Needy Families (TANF)
*To qualify you must participate in the WorkFirst Program, meaning you must be able to work.
- Housing and Essential Needs (HEN)
- WorkFirst Program (Employment Training and Placement)
- Working Connections Child Care (WCCC)
*To qualify you must be employed.
- Basic Food Employment Training (BFET)
- Resources to Initiate Successful Employment (RISE)

- Disability Determination Services (DDS) Under Social Security regulations, the DDS disability specialists, staff physicians and psychologists determine eligibility of Washington applicants for three disability programs:
 1. Social Security Disability Income (SSDI)
 2. Supplemental Security Income (SSI)
 3. Non-Grant Medical Assistance (NGMA)

Washington Connection is a helpful tool for finding and applying for resources in your area. If you are interested in applying for DSHS financial benefits, you can apply online at <https://www.dshs.wa.gov/esa/community-services-offices/services-we-offer> or visit your local Community Services Office (CSO).

3.3.3.1 Community Options Program Entry System (COPES)

COPES is a program of DSHS. It pays for personal care and other services for individuals that need help with daily living activities due to a physical or cognitive disability. It pays for caregiver services in your own home, higher levels of care in adult family homes, assisted living facilities, or skilled nursing facility. To qualify for COPES, you must have Medicaid coverage. Also, you must need significant help with two or more of the activities of daily living, listed below.

Activities of Daily Living

| Mobility | Self Help Skills | Household Management | Community Skills | Health and Wellness |
|---|-------------------------|-----------------------------|--|--|
| Ability to move around your home and community | Bathing | Meal Preparation | Getting out to interact in social environments | Seek medical assistance when necessary |
| Ability to transfer in/out of bed and other furniture | Dressing | Cleaning | Assistance using public transportation | Medication Management |
| | Eating | Laundry | Shopping | |
| | Grooming | Money Management | | |
| | Using the Bathroom | | | |

COPES can also pay for other “wrap-around” services including home delivered meals, home health aides, skilled nursing care, adult day care and training to help you increase what you can do for yourself. To get COPES services, your income and resources must be within set limits.

You can learn more about this program online or by visiting your local Community Services Office.

3.3.4 Medicaid

Medicaid, currently referred to as “Apple Health” is a joint federal and state program that provides healthcare for individuals with limited income and resources.³

- Medicaid provides medical coverage to adults, children, pregnant women, caretakers, seniors, individuals with disabilities and qualified non-citizens.
- Medicaid is provided at no cost to beneficiaries and sends payments directly to your healthcare providers.
- Not all providers or specialists are contracted to accept Medicaid.
- Medicaid typically covers most prescriptions at no cost to the beneficiary.
- Every state has different rules about who qualifies for Medicaid and what they can receive.
- Medicaid covers basic dental: fillings, cleanings once a year, one comprehensive exam, emergency visits, and extractions.
- Enrollment periods may vary.

- To apply for Medicaid, you can visit your local Community Services Office or apply online at www.wahealthplanfinder.org.

3.3.5 Medicare

Medicare is the national health insurance program to which all Social Security recipients who are over the age of 65 or permanently disabled for two years or more are entitled. Coverage under Medicare is similar to insurance provided through private insurance companies. Medicare pays a portion of medical care and usually charges a copayment or deductible.³ It is a four-part insurance program broken down as follows:

- Part A: Cover hospitalization, skilled nursing facilities, home health care, and hospice services.²
- Part B: Cover physician services, outpatient hospital care, preventative care, laboratory tests and certain medical equipment and supplies.²
- Part C: Optional, cost-saving managed care plan.²
- Part D: Optional prescription drug program.²

3.4 WHAT IF I CAN'T LIVE ON MY OWN OR WITH FAMILY ANYMORE?

3.4.1 Skilled Nursing Facility (SNF)

This level of care is appropriate for individuals who have medical risks and complex nursing needs. Skilled nursing facilities provide 24 hour supervised medical care, personal care, therapy, meals and nutrition management, organized activities, laundry and access to social services (like an on-site Social Worker). Sometimes an individual will need this level of care for the rest of their life. Other times, an individual will go to a skilled nursing facility short term for rehabilitation and intensive nursing care. Most individuals are discharged home, where they can continue recovery there.

3.4.2 Assisted Living Facility (ALF)

This is most commonly referred to as a "Nursing Home". Assisted living facilities are long term and provide basic nursing assistance, medication management, physical therapy, meals, private rooms, and social engagement throughout the day. They also provide outings, socials and residents can come and go as they please, contingent of their care plan.

3.4.3 Adult Family Home (AFH)

An adult family home is licensed to provide housing and care services to adults. It is usually a house in a residential area where 4-6 individuals live. The staff at the home assumes responsibility for the health and safety of the individuals living there. Although provisions typically vary, most adult family homes provide housing, meals, laundry, assistance with personal care, medication administration, and 24-hour staff coverage. Some adult family homes offer specialized care for individuals with mental health issues, developmental disabilities or dementia.

3.4.4 Transitional Living Community

Survivors of severe, traumatic brain injury require specialized programs for long-term treatment and care. Some skilled nursing facilities and assisted living facilities are not well equipped to provide a long-term therapeutic recovery.

Transitional Living Communities offer survivors of brain injury with a safe, home-like setting where they can continue to develop their cognitive, motor and behavioral skills in a secure neighborhood environment with the help of experienced medical and rehabilitation professionals.

This type of living situation is equipped to handle the complex medical and social needs of survivors with severe brain injuries. The availability of these facilities is very scarce and will require openness to leaving Washington State.

3.5 HOW WILL I TRANSPORT MYSELF IF I CAN NO LONGER DRIVE?

Washington State is a complex geographic location, whose counties and amenities are often not synonymous statewide. Depending on where you reside, your ability to access transportation may be limited, funded by public transportation, or dependent upon on local, nonprofit organizations. In addition, Medicaid-funded transportation may be available to assist you with transportation to medical appointments.

*Please note: If you are recipient of Medicaid, and live on the East Side of the Cascades, there may be transportation available to help you attend your medical appointments in Seattle or other locations throughout the State.

For additional information on Ferry Schedules, please consult the Washington State of Transportation Website: www.wsdot.com/ferries/schedule/ or by phone: 1-888-808-7977

*A full description of Transportation available in Washington State can be obtained here: <http://www.wsdot.wa.gov/publications/manuals/fulltext/M3079/spt.pdf>

Here is some information to help you get started:

| County | Transportation Resource |
|----------------------|---|
| Adams County | Name: People for People Website: www.pfp.org Phone: (509) 765-9249 Ext. 555 |
| Asotin County | Name: Ride the Valley Website: www.ridethevalley.org Phone: (509) 758-3567 |
| Benton County | Name: Benton Franklin Transit Website: www.bft.org Phone: (509) 735-5100 |
| | Name: People for People |

| | |
|------------------------|---|
| | <p>Website: www.pfp.org</p> <p>Phone: (509) 765-9249 Ext. 555</p> |
| Chelan County | <p>Name: Link Transit</p> <p>Website: www.linktransit.com</p> <p>Phone: (509) 662-1155.</p> |
| | <p>Name: People for People</p> <p>Website: www.pfp.org</p> <p>Phone: (509) 765-9249 Ext. 555</p> |
| Clallam County | <p>Name: Clallam County</p> <p>Website: www.clallamtransit.com</p> <p>Phone: (360) 452-4511</p> |
| Clark County | <p>Name: C-Tran</p> <p>Website: www.c-tran.com</p> <p>Phone: (360) 695-0123</p> |
| Columbia County | <p>Name: Columbia County Public Transportation</p> <p>Website: http://www.ccptransit.org/</p> <p>Phone: (509) 382-1647</p> |
| | <p>Name: People for People (Non-Emergency Medical Transportation)</p> <p>Website: www.pfp.org</p> <p>Phone: 1-800-233-1624</p> |
| Cowlitz County | <p>Name: River City Transit</p> <p>Website: www.rctransit.org</p> <p>Phone: (360) 442-5663</p> |
| Douglas County | <p>Name: Link Transit</p> <p>Website: www.linktransit.com</p> <p>Phone: (509) 662-1155.</p> |

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| | <p>Name: People for People</p> <p>Website: www.pfp.org</p> <p>Phone: (509) 765-9249 Ext. 555</p> |
| Ferry County | <p>Name: Resources Community Action</p> <p>Website: www.ruralresources.org/get-help/transportation/</p> <p>Phone: 1-800-776-9026</p> |
| Franklin County | <p>Name: Benton Franklin Transit</p> <p>Website: www.bft.org</p> <p>Phone: (509) 735-5100</p> |
| | <p>Name: People for People</p> <p>Website: www.pfp.org</p> <p>Phone: (509) 765-9249 Ext. 555</p> |
| Garfield County | <p>Name: Garfield County Rural Transportation</p> <p>Website: www.co.garfield.wa.us/transit/home</p> <p>Phone: (509) 843-0200</p> |
| Grant County | <p>Name: Grant Transit Authority</p> <p>Website: www.gta-ride.com</p> <p>Phone: 1-800-406-9177</p> |
| | <p>Name: People for People</p> <p>Website: www.pfp.org</p> <p>Phone: (509) 765-9249 Ext. 555</p> |
| Grays Harbor County | <p>Name: Grays Harbor Transportation Authority</p> <p>Website: www.ghtransit.com</p> <p>Phone: (360) 532-2770</p> |
| Island County | <p>Name: Island Transit (Whidbey + Camano)</p> <p>Website: www.islandtransit.org</p> |

| | |
|-------------------------|---|
| | <p>Phone: (360) 678-7771</p> <p>Name: Washington State of Transportation</p> <p>Website: www.wsdot.com/ferries/schedule/</p> <p>Phone: 1-888-808-7977</p> |
| Jefferson County | <p>Name: Jefferson Transit</p> <p>Website: www.jeffersontransit.com</p> <p>Phone: 1-800-371-0497</p> |
| King County | <p>Name: King County Metro</p> <p>Website: www.metro.kingcounty.gov</p> <p>Phone: (206) 553-3000</p> <p>Information on Access (transportation for individuals living with disability): www.metro.kingcounty.gov/tops/accessible/programs/index.html</p> <p>Information on Reduced Regional Fare Permit: www.metro.kingcounty.gov/tops/accessible/reduced-fare-permits.html</p> <hr/> <p>Name: King County Water Taxi (Ferry District)</p> <p>Website: www.kingcounty.gov/depts/transportation/water-taxi.aspx</p> <p>Phone: (206) 477-3979</p> |
| Kitsap County | <p>Name: Kitsap Transit</p> <p>Website: www.kitsaptransit.com</p> <p>Phone: (360) 478-6223</p> |
| Kittitas County | <p>Name: HopeSource Transportation</p> <p>Website: www.hopesource.us</p> <p>Phone: Ellensburg: (509) 925-1148 Cle Elum: (509) 674-2375</p> <hr/> <p>Name: People for People (Non-Emergency Medical Transportation)</p> <p>Website: www.pfp.org</p> <p>Phone: (509) 248-6793</p> |

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| | <p>Name: CWU Commuter Bus (Yakima to Ellensburg) & Mattawa Shuttle Bus (Non-students can utilize this service)</p> <p>Website: www.cwu.edu/field-experience/commuter-bus-information or www.yakimatransit.org</p> <p>Phone: (509) 575-6175</p> |
| Klickitat County | <p>Name: Mount Adams Transportation Services (MATS)</p> <p>Website: www.gorgetranslink.com/transit-klickitat.html</p> <p>Phone: Goldendale: 1-800-774-1699</p> <p>White Salmon: 1-800-493-7606</p> |
| Lewis County | <p>Name: Ride the Valley</p> <p>Website: http://ridethevalley.org</p> <p>Phone: (208) 298-1340</p> |
| Lincoln County | <p>Name: People for People</p> <p>Website: www.pfp.org</p> <p>Phone: (509) 735-9249 Ext. 555</p> |
| Mason County | <p>Name: Mason County Transit Authority</p> <p>Website: www.masontransit.org</p> <p>Phone: 1-800-374-3747</p> |
| Okanogan County | <p>Name: Okanogan Transit</p> <p>Website: www.okanogantransit.com</p> <p>Phone: (509) 315-2548</p> |
| | <p>Name: Okanogan Transport and Nutrition</p> <p>Website: www.octn.org</p> <p>Phone: (509) 826-4391</p> |
| | <p>Name: People for People (Non-Emergency Medical Transportation)</p> <p>Website: www.pfp.org</p> |

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| | Phone: 1-800-233-1624 |
| Pacific County | Name: Pacific Transit System Website: www.pacifictransit.org Phone: (360) 875-9418 |
| Pend Oreille County | Name: Resources Community Action Website: www.ruralresources.org/get-help/transportation/ Phone: 1-800-776-9026 |
| Pierce County | Name: Pierce Transit Website: http://www.piercetransit.org/ Phone: (253) 581-8000 |
| San Juan County | Name: San Juan Transit Website: www.sanjuantransit.com Phone: (360) 378-8887 |
| | Name: Washington State of Transportation Website: www.wsdot.com/ferries/schedule/ Phone: 1-888-808-7977 |
| Skagit County | Name: Skagit Transit Website: www.skagittransit.org Phone: (360) 757-1938 |
| Skamania County | Name: Gorge Translink Website: www.gorgetranslink.com/transit-skamania.html Phone: (509) 427-3990 |
| Snohomish County | Name: Community Transit Website: https://www.communitytransit.org/ Phone: 1-800-562-1375 |

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| Spokane County | Name: Spokane Transit Authority Website: www.spokanetransit.com Phone: (509) 325-6095 |
| Stevens County | Name: Resources Community Action Website: www.ruralresources.org/get-help/transportation/ Phone: 1-800-776-9026 |
| Thurston County | Name: Intercity Transit Website: www.intercitytransit.com Phone: (360) 786-1881 |
| | Name: Thurston Regional Planning Council Website: www.trpc.org Phone: (360) 956-7575 |
| Wahkiakum County | Name: Wahkiakum County on the Move Website: None Listed Phone: (360) 795-3101 |
| | Name: Ferry Website: www.co.wahkiakum.wa.us/depts/pw/index.htm Phone: (360) 795-3301 |
| Walla Walla County | Name: Valley Transit Website: http://www.valleytransit.com/ Phone: 1-800-833-6338 |
| | Name: People for People (Non-Emergency Medical Transportation) Website: www.pfp.org Phone: 1-800-233-1624 |
| Whatcom County | Name: Whatcom Transportation Authority Website: www.ridewta.com |

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| | Phone: (360) 676-7433 |
| Whitman County | Name: Pullman Dial-A-Ride Website: www.whitmancounty.org/ssi.aspx?ssid=15 Phone: (509) 332-5471 |
| | Name: Council on Aging Specialized Transit (COAST) Website: http://www.coacolfax.org/ Phone: (509) 397-2935 |
| Yakima County | Name: Yakima Transit Website: www.yakimatransit.org Phone: (509) 575-6175 |
| | Name: Union Gap Transit Website: www.cityofuniongap.com/transit/ Phone: (509) 248-0432 |
| | Name: Selah Transit Website: www.ci.selah.wa.us Phone: (509) 698-7333 |
| | Name: People for People Website: www.pfp.org Phone: (509) 457-1111 |
| | Name: CWU Commuter Bus (Yakima to Ellensburg) & Mattawa Shuttle Bus (Non-students can utilize this service) Website: www.cwu.edu/field-experience/commuter-bus-information or www.yakimatransit.org Phone: (509) 575-6175 |
| | |

OTHER BRAIN INJURY QUESTIONS

3.6 WHEN WILL LIFE GO BACK TO NORMAL?

Recovery following a brain injury varies for each individual. For **some, the effects of brain injury can be long lasting and may never return to pre-injury functioning.** Although some individuals with a severe brain injury experience only mild long-term difficulty, others may require care or special services for the rest of their lives.

Researchers do not fully understand exactly what happens to the brain during recovery. Factors such as age, severity, and location of a brain injury can affect, but do not entirely predict, the outcome of recovery. For example, some people with significant brain injuries experience only mild long-term difficulties, while others need lifelong, special care. The way in which the injury occurred cannot completely predict the symptoms an individual will experience following a brain injury.

In the days and weeks immediately following a brain injury, the function of surviving brain tissue is often affected by swelling, bleeding and/or changes in the brain's complex chemistry.

Family and friends can assist the individual by creating a calm, quiet environment (for example, limiting the number of people in the person's room, turning off the television and dimming the lights). In addition, it is important to ask questions about appropriate care to the clinical nurse specialist and other members of the health care team, who are responsible for keeping you accurately informed.

New research is shedding light on brain tissue and its capacity to repair itself. Many things can occur that help restore surviving brain tissue to maximize function. To illustrate, it is thought that surviving brain tissue has the capacity gradually to learn how to perform some functions of destroyed cells.

3.6.1 What Is Neuroplasticity?

Neuroplasticity is the ability of the nervous system to change itself to form new connections and create new neurons to compensate for injury or adapt to changes in the environment.

From the time the brain begins to develop in utero until the day we die, the connections between the cells in our brains reorganize in response to our changing needs.⁸ This dynamic process allows us to learn from and adapt to different experiences.⁸

Neuroplasticity is a factor in recovery from brain injury.⁸ In fact, it is the basis for many of our cognitive and physical rehabilitation practices. Part of rehabilitation is aimed at trying to rebuild connections between nerve cells.⁸ This "re-wiring" of the brain can make it possible for a function previously managed by a damaged area to be taken over by another undamaged area.⁸ The connections among the cells are infinitely receptive to this type of change and expansion.⁸

Research progress on neuroplasticity following brain injury has been significant in the past 30 years. Research has found that when a subset of neural projections to a brain region is lost, new synaptic connections can form onto the partially denervated neurons.² These findings have supported the idea that the adult injured brain could reorganize to repair itself.² This process is possible with continued effort in forming and reinforcing the new connections made.

3.7 HOW CAN I PROTECT MYSELF FROM FURTHER INJURY?

3.7.1.1 Risk of Re-Injury

Research indicates that individuals who have sustained 1 brain injury are 3X more likely to sustain a second injury, and 8X more likely to sustain a third injury throughout their lifetime². What occurs during re-injury creates a lasting, cumulative effect that often cannot be reversed and could be fatal. To illustrate: imagine for a moment a glass that is 100 percent full; this is your brain before injury. After injury, the glass loses water and although some of the water is regained during recovery, it rarely fills to its original capacity. However, in the event of re-injury, the glass further empties and becomes impaired, no longer able to refill. This pattern continues with each re-injury until there is seemingly no liquid left. Now imagine the content within the glass is your cognitive capacity. Re-injury must be avoided.

3.7.1.2 Be Aware that Re-injury Can Happen and Adjust Accordingly

How do you avoid re-injury? The first step comes from understanding your strengths and limitations, which can be difficult to assess without appropriate supports and a knowledgeable medical team. Therefore, it is strongly encouraged that you not only find knowledgeable medical providers well versed on brain injury, but that you consider them a useful tool in helping to determine what activities may be appropriate, and which you should avoid. Accepting that you might have to adjust your life and level of independence takes time. However, it is critical that as your limitations become more apparent, you take the necessary steps to adjust yourself accordingly. This will work to minimize risk and protect your recovery.

REMEMBER

CHILDREN, ADOLESCENT, AND
ELDERLY POPULATIONS POSE MOST
RISK FOR FALLS AND REINJURY!

Below are some helpful reminders to better assist you from further injury:

1. Follow the guidelines detailed in your discharge instructions from your physician⁵⁰
2. Attend all your follow up appointments with each of your providers⁵⁰
3. Minimize risky behaviors that elevate your risks of injury
4. Ask for help whenever you need it: i.e. emotional support, assistance with cognition, memory, daily tasks etc.
5. Monitor yourself for feelings of fatigue and other signs/symptoms that could result in injury
6. Wear all appropriate equipment (helmet, etc.) and assistive devices prescribed to you (walkers, etc.)
7. Alert your medical team if the possibility of re-injury as occurred

3.8 CAN I DRIVE AFTER A BRAIN INJURY?

Driving is an important part of a person's independent lifestyle and integration into the community. Because we take our driving skills for granted, it is easy to forget that driving is the most dangerous thing we do in our everyday lives. A brain injury can affect the skills needed to drive safely. The expected timeframe an injured person must await before safely returning to driving should be addressed early on

recovery. The injured person, family members, and health professionals should all be included in this important decision. If anyone has concerns that driving may put the injured person or others in danger, health professionals may recommend pre-driving testing.

3.8.1.1 How can a TBI affect driving ability?

A brain injury can disrupt and slow down skills that are essential for good driving, such as:

- Ability to maintain a constant position in a lane
- Having accurate vision
- Maintaining concentration over long periods of time
- Memory functioning, such as recalling directions
- Figuring out solutions to problems
- Hand-eye coordination
- Reaction time
- Safety awareness and judgment

Studies indicate that even mild thinking difficulties, which may not be recognized by the individual with a brain injury, may add to increased risks while driving.

3.8.1.2 Warning signs of unsafe driving

- Driving too fast or too slow
- Not observing signs or signals
- Judging distance inaccurately when stopping or turning
- Slow to make decisions
- Becoming easily frustrated or confused
- Having accidents or near misses
- Drifting across lane markings into other lanes
- Getting lost easily, even in familiar areas

3.8.1.3 Driving Evaluations

A driving evaluation is a crucial step in determining a person's ability to drive following recovery from a TBI. Research studies indicate that most TBI survivors are not thoroughly evaluated for driving skills before they begin driving after the injury, and this may put TBI survivors at risk for a crash.

While there is no standardized assessment test or process, a typical driving evaluation has two parts:

- Preliminary Evaluation: A review of cognitive (thinking) abilities, including reaction time, judgment, reasoning and visual spatial skills. Recommendations regarding the need for adaptive equipment and additional skills training are based on the results of the evaluation.
- On-the-Road: A test of the mechanical operation of a vehicle, either using a driving simulator or driving a vehicle on the roadway in the presence of the evaluator. This evaluation is used to assess safe driving skills in various traffic environments, as well as basic driving skills while a client uses the appropriate adaptive driving equipment.

Current research indicates that many individuals with TBI can become competent, safe drivers when given the proper training. Training serves to improve specific driving skills. Sometimes this involves practicing driving under the supervision of a driving evaluator. In individual cases, a training program might focus on specific skills such as rapid understanding of visual information.

Evaluations and training are often provided by professionals certified through the Association for Driver Rehabilitation (ADED). A list of certified professionals may be found on the ADED website, <http://www.driver-ed.org>

3.8.1.4 Adaptive Driving Equipment

If an individual with a brain injury has physical disabilities but has well-preserved cognitive functions, the individual may be able to resume driving with adaptive equipment and/or other modifications to the vehicle.

Recommendations for adaptive equipment and modifications could include:

- Hand-controlled gas and brake systems
- Spinner knobs for steering
- Left foot accelerator
- Lifts for entering and exiting the vehicle
- Expanded rear-view mirror
- Sensors

4 CHANGES AFTER BRAIN INJURY

4.1 WHAT THINKING CHANGES CAN OCCUR AFTER BRAIN INJURY?

Brain Injury Can Disturb:

- Alertness and concentration
- Self-awareness
- Perception
- Memory and learning
- Reasoning, planning and problem-solving
- Speech and language
- Motor control
- Emotions

The information that follows will help familiarize you with behavior, memory and thinking problems that a person with brain injury may experience. Also included are techniques to help the person participate more effectively and comfortably in social situations. **Consistent and frequent repetition of the techniques listed will increase the chance of success.**

Do not hesitate to contact any member of your rehabilitation team if you have questions or need assistance and suggestions.

4.1.1 Confusion

| Signs | What individuals with brain injury can do to help themselves | What family/friends can do to help |
|---|---|--|
| <ul style="list-style-type: none"> • Confuses times/tasks in schedule of activities • Confuses past and present events • Confabulates (makes up convincing stories to fill memory gaps; this is not intentional lying) | <ul style="list-style-type: none"> • Use a calendar or device to set important reminders, or devise a system that prompts you to follow daily events. • Remain open to gentle reminders and support. • Ask questions about the events and keep a memory journal. • Create a routine where you check your calendar, notebook, or device regularly. • Assert your routine as a part of your recovery, and ask your support team to adhere to it as best as possible. | <ul style="list-style-type: none"> • Encourage the use of a notebook to log events and encourage the person to refer to it for details of daily events. • Gently remind the person of correct details of past and present events. • Confirm accurate information with other people. • Arrange for consistency in routine tasks (use a calendar and/or notebook). • Limit changes in daily routine. • Provide clear, concise explanations of even the most basic changes in daily routines. |

4.1.2 Difficulty Remembering

| Signs | What individuals with brain injury can do to help themselves | What family/friends can do to help |
|--|--|---|
| <ul style="list-style-type: none"> • Unable to remember tasks from day to day • Unable to remember new information | <ul style="list-style-type: none"> • Follow a routine with the assistance of daily reminders and prompts. • Rely on memory aids to assist you establish a routine, and check off tasks as you complete them. • Find a journal or notebook that you can carry with you, to log information as needed. • Ask questions when you need clarification, record their answers in a notebook. • Takes rests frequently, and work on reviewing and rehearsing when you feel alert and engaged. • Practice. Ask questions as needed to assure best results. • Introduce new information within the context of information already learned. For example: you learn black and white, before you learn gray. | <ul style="list-style-type: none"> • Establish a structured routine of daily tasks. • Encourage the consistent use of memory aids such as calendars and notebooks to plan, record and check off tasks as completed. • Encourage the person to write new information in the memory notebook • Encourage other family members/friends also to write any information they need to communicate to the person. Be sure to remain positive. • Encourage review and rehearsal of this information frequently throughout the day. • Provide opportunities for repeated practice of new information. • Try to pair new information with facts the person can recall. Ask open ended questions. • Provide spoken cues as needed for recall and, if necessary, help fill in memory gaps. |

4.1.3 Attention Problems

| Signs | What individuals with brain injury can do to help themselves | What family/friends can do to help |
|--|---|--|
| <ul style="list-style-type: none"> • Limited ability to focus • Easily distracted • Difficulty in attending to one or multiple things at a time | <ul style="list-style-type: none"> • Communicate with your support network and team that you need to focus on one task at time. • Reduce stimulation, number of people, side conversations, bright lights and background noise. • If you are feeling rushed, tell them so. • Find quiet environments to engage in conversation. • Ask questions and keep eye contact. Say you missed a section of information or ask for clarification, as needed. • Only one person should be talking at a time. • Explain if you are having difficulty completing multiple tasks, or if you need more time. • Accept praise. Remember your support team is there to help you achieve your goals. • Accept gentle reminders. If you find yourself needing a moment. Allow a couple minutes, and then re-engage. • Self-advocate for your routine and preferences. This will help others remember how to best assist you. • Reiterate information after being asked and log any important information into a notebook. If you do not understand, it is okay to say so. • Self-Advocate. If you hit a wall and feel fatigued, let your supports know you need to rest before continuing with activities for the rest of the day. | <ul style="list-style-type: none"> • Focus on one task at a time. Give ample time to solve the task/problem. Remain patient, and do not complete it for them (if they are working toward solving it for themselves and can solve it for themselves). • Be sure you have the individual's attention before beginning a discussion or task. Use clear, specific language. • Decrease distractions when working or talking with the individual. • Praise any improvement in length of attention to activity. • Gently refocus attention to specific details of the activity, as needed. • Keep abrupt change to a minimum. • Ask the individual to repeat information that was communicated to be sure they understood the conversation. Reiterate and restructure as needed. • Schedule brief rest periods between short periods of work or activity (For example, 20-30 minutes or work, a five-minute break; 20-30 minutes of work, etc.). |

4.1.4 Difficulty with Decision Making

| Signs | What individuals with brain injury can do to help themselves | What family/friends can do to help |
|--|---|--|
| <ul style="list-style-type: none"> • Hesitation with decisions • Inappropriate or potentially harmful decisions • Difficulty reasoning • Ineffective problem solving | <ul style="list-style-type: none"> • Allow others to help you make decisions • Find a reminder to prompt thought. This can be a bracelet, image, or anything that you can focus on that allows you brain to reset and refocus. • Keep a log of strategies that worked and use them in the future. Ask for assistance when needed. • Explain out loud the advantages and disadvantages to help with processing. • Think of situations you would like to rehearse and that would most benefit you to practice. | <ul style="list-style-type: none"> • Encourage the individual to “stop and think.” Some survivors of brain injury benefit from a note or a stop sign on the front of their notebook reminding them to “stop and think.” • Help the individual explore various options to solving problems. • Have the individual write possible options in their notebook. • Discuss advantages and disadvantages of each option. • Role-play to prepare the individual for various situations. |

4.1.5 Difficulty with Initiation

| Signs | What individuals with brain injury can do to help themselves | What family/friends can do to help |
|---|---|--|
| <ul style="list-style-type: none"> • Has trouble getting started • Appears disinterested or unmotivated (this is typically not intentional) | <ul style="list-style-type: none"> • Set reminders five to ten minutes before you begin so that you can mentally prepare for the day ahead. • Identify goals you would like to accomplish each day and write them down. • Take steps one at a time. Give yourself plenty of time to complete tasks, and reflect on the task once completed. • Find a tool that works for you to keep your tasks organized. Some individuals use their phone. Others like sticky notes, calendars and journals. • Remember to be patient with yourself and feel good about your recovery. | <ul style="list-style-type: none"> • Help the individual develop and follow a structured daily routine. • Provide specific choices for daily tasks. For example, ask, “Would you like to do A or B?” • Simplify tasks. Break down tasks into simple steps and complete them one step at a time. • Encourage a calendar or notebook to set specific deadlines for tasks to be completed. • Praise the individual for starting without assistance. • Establish a time frame for accomplishing tasks. |

4.1.6 Difficulty Carrying Out a Plan of Action

| Signs | What individuals with brain injury can do to help themselves | What family/friends can do to help |
|---|---|---|
| <ul style="list-style-type: none"> • Lack of follow-through to completion with a task • Difficulty planning a sequence of tasks • Appears disorganized | <ul style="list-style-type: none"> • Follow tasks in order. Use the 1, 2, 3 method so that you can stay on task for each step. Set a reminder in your phone or on your calendar to remind you to complete what you have begun. • Remember it is okay to ask when you need assistance in executing a project. Always write down or have the steps posted so you can follow them one by one. • By keeping a calendar and reminders, this can help you stay on task. Finding a familiar place to set items can assist with retrieval. Setting reminder in your calendar such as “the instructions are in my reminder pile” can provide you with detailed information to where you place things and what you should do next. • Follow the steps one by one. Allow yourself ample time to complete tasks and time to reflect when finished. • Repeat them back to assist with memory. • Make sure your calendar, phone, notebook, or other device is something you can carry with you in a pocket, satchel, etc. | <ul style="list-style-type: none"> • Begin with small, realistic projects that have clear, identifiable steps. • Include the individual in planning the activity. Help them identify what steps should be first and come next. • Provide a clear explanation of an activity before starting. • Break down new or complex tasks into several easier steps. • Have the individual write a step-by-step list as a plan. • Ask the individual to tell you these steps to ensure understanding. • Encourage them to refer to the plan, and check off each task that is completed. |

4.2 WHAT PERCEPTUAL CHANGES CAN OCCUR AFTER BRAIN INJURY?

Perception is the brain’s ability to gather information and make sense of it. Perceptual changes may cause individuals with a brain injury misinterpret what they feel, see or hear, even though their senses of touch, sight and hearing are fine. Perceptual changes may impair the ability to judge distance, size, position and speed of movement.

After acquiring a brain injury, the individual may experience some of the following:

- Unilateral neglect (neglect of one side of the body)
- Visual field cut (each eye sees only half or a portion of its visual field)
- Apraxia (inability to use an object or do familiar tasks)
- Difficulty with spatial relations

Perceptual changes following brain injury can be temporary or permanent. The following information is intended to help identify perceptual changes and how to adapt to them.

4.2.1 Unilateral Neglect

| Signs | What individuals with brain injury can do to help themselves | What family/friends can do to help |
|--|---|--|
| <ul style="list-style-type: none"> • Bumps into objects on the affected side • Turns head toward the unaffected side • Ignores food on the side of the plate on the affected side • Fails to dress the affected side of the body • Forgets to bathe or attend to other hygiene tasks on the affected side • Applies makeup to only one side of the face • Jabs the eye on the affected side when putting on glasses | <ul style="list-style-type: none"> • Make brightly colored marks on items to notify you that they are present. • Utilize your abilities to maintain full awareness of your surroundings by working toward noticing objects in all directions. • Set reminders before the task that remind you to bathe both sides of your body. Keep your shampoo and soap in the shower on the affected side to further prompt reminders. • Use slow and intentional movements when removing and placing articles on your body. Utilize your support team for additional therapies that can better assist you with activities of daily life. Consider using a retainer or chain (a device that allows you to wear your glasses around your neck) to better assist with this. | <ul style="list-style-type: none"> • Ask visitors to stand on the affected side to encourage the individual to look toward that side. • Position bed and chair to encourage looking toward the affected side. • Position bright objects on the affected side. This “visual cueing” should be done only when the individual is alert and not tired. Place food they like most on affected side. • Provide reminders to bathe both sides of the body and ask if this was completed. Or help the individual set reminders and place items in the shower on the affected side. • Help the individual utilize the mirror and place reminders as needed. • Provide reminders to slow down and carefully place glasses. Finding protective gel pads to use at the end of the glasses (on the ear piece) could help reduce risk of injury. |

4.2.2 Visual Field Cut

| Signs | What individuals with brain injury can do to help themselves | What family/friends can do to help |
|--|---|--|
| <ul style="list-style-type: none"> • Suddenly notices objects that seem to appear or disappear • Bumps into objects on the affected side • Turns their head toward the unaffected side • Cannot see food on the side of the plate on the affected side • Loses track of the last location on a page where the person was reading or writing • When reading, cuts words in half and they cannot be understood | <ul style="list-style-type: none"> • Keep environment engaging. Use bright colors to remind you of object placement. • Keep your environment free of clutter and practice the layout of your environment, by walking through a couple of times. • Consider using wide-spaced paper with brightly colored lines when writing. When reading, use tabs whenever you complete a sentence. This will hold your place. | <ul style="list-style-type: none"> • Remind the individual to look around the environment, especially on the affected side. • Mark “on” and “off” switches of frequently used items, such as televisions and kitchen appliances, with bright pieces of tape so it is easy to tell if the equipment is on or off. • Position bright objects or favorite things to the affected side and ask the individual to turn their head until they spot the objects. • Draw a straight, brightly colored line down one side of a book or notebook as a cue indicating the edge of the page. Do this on the right side of the page if the right side is affected, and on the left side if the left side is affected. |

4.2.3 Apraxia

| Signs | What individuals with brain injury can do to help themselves | What family/friends can do to help |
|--|---|---|
| <ul style="list-style-type: none"> • Uses objects incorrectly; for example, might use a toothbrush to comb their hair or a fork to eat soup • Fails to follow spoken directions due to an inability to understand or do what is asked; for example, may not give the “thumbs-up” sign when asked • Puts clothes on backwards, upside down or inside out | <ul style="list-style-type: none"> • Use posted visual prompts to remind you how to correctly use an object. Set a routine for where they are placed and assure each item is returned after use. • Explain to your care team when you are confused and do not understand what is being asked. • Place clothes out the night before in the order that you would put them on. • Follow your schedule for dressing and take your time to complete each task. It can be helpful if you do this in front of a mirror. • Develop a routine for hygiene and dressing. | <ul style="list-style-type: none"> • Stop the individual from continuing a task the wrong way. Prompt them with the appropriate tools to continue the task. Label items according to use. Have picture reminders posted (a person brushing their hair with a comb) to remind the individual of appropriate usage. • Show them what to do by demonstrating the position or movement. Consider rewording or rephrasing, if there is continual confusion. If there are multiple steps, give instructions one at a time in A. B. C format. Provide written instructions when appropriate. • Place your hand over their hand and move it through the correct motions to perform a task. Provide clothing with clear identifiers. Such as purchasing shirts with different colored collars and arm holes, Pants with belt loops, etc. • Redirect the person to put on clothing in correct order, one step at a time. • Develop a daily routine for hygiene and dressing. |

4.2.4 Spatial Relations

| Signs | What individuals with brain injury can do to help themselves | What family/friends can do to help |
|---|--|---|
| <ul style="list-style-type: none"> • Mistakes the location of a chair when sitting down • Has difficulty finding items in a cluttered room • Has trouble using a fork or spoon to pick up food from a plate • Misjudges distance; for example, misses the cup when pouring coffee • Misjudges space between steps when going up or down stairs • Reaches too far or not far enough to get objects • Stands too close or too far away from others in social situations • Requests eye appointment often, because of perception that vision is affected | <ul style="list-style-type: none"> • Placing your hand on the seat cushion for directive can help with a smooth transition before sitting down. Keeping chairs in similar location can assist. • Practice routine of placing your items in the same place after use. • Allow yourself patience and time to regain these skills, and utilize your supports as needed when you experience periods of frustration. • Be aware of your abilities and ask for help when needed. Take extra time to process areas that present frequent problems, such as: distance, volume, gauging, or grasping. • Take your time, use the guardrail and keep careful note of your footing as you take each step. • Take your time to complete each step. Allow yourself your best effort without feeling judged or rushed. • Ask individuals to whom you are speaking, if you are standing too close or too far for comfort, then adjust accordingly. • Keep appointment card visible to remind yourself of upcoming appointment. Keep symptoms and concerns in a journal to discuss with your physician. | <ul style="list-style-type: none"> • Remove clutter; keep the home and drawers organized and neat. Use seating cushions that are brightly colored and easily discernable. • Keep items used often in the same location. • Provide cues with words and pictures. Assist with motions for scooping. Utilize assistive devices, and consider consulting an occupational therapist to bolster these activities of daily living. • Place brightly-colored tape across the edge of each step on stairways or other areas where landscape change might be a concern. Use brightly colored glasses with a discernable rim. Draw a fill line cup on the glass to better assist with volume. • Remind that handrails should be used when available. • Encourage using both hands to feel for objects. • Provide gentle reminders and ask the person to move when standing too close or too far away. • Wait for six months after the brain injury - or the time recommended by your physician - to schedule an eye appointment. It is unlikely that the problem with perception is the result of a new problem with the eyes. |

4.3 WHAT NEUROBEHAVIORAL CHANGES CAN OCCUR AFTER BRAIN INJURY

A person with a brain injury may experience changes in their behavior, including self-control, self-awareness and response to social situations. The following are common neurobehavioral problems for a person with a brain injury, what you may see and suggested ways to help.

4.3.1 Difficulty with Self-Control/Impulsivity

| Signs | What individuals with brain injury can do to help themselves | What family/friends can do to help |
|---|--|--|
| <ul style="list-style-type: none"> • Acts or speaks without all the information or without considering the consequences • Impulsiveness or poor judgment • Lack of inhibition • Inappropriate comments to or about others • Gets stuck on one idea or activity (perseveration) | <ul style="list-style-type: none"> • Provide visual cues to remind yourself of choices. Such a red stamp on your wallet to provide reminders on spending money. Or other cues to better assist you. • Practice social conversation • Keep a visual reminder of the events and timeframes of each activity. This will help you move on to new activities and complete those you begin. • At times, it can be helpful to alert others before the conversation that you may derail, and ask them to alert you if this happens. This can be helpful for decreasing cyclical responses, and propelling the conversation forward. • Accept guidance and take the opportunity to slow down and process the events that are occurring. • Allow successes and feel good about your accomplishments. | <ul style="list-style-type: none"> • Gently remind the person to use appropriate language and redirect conversation as needed. Reiterate what they said and walk them through how and why the individual responded to them in that manner. Practice conversations and role play situations of social conversation. Limit the person’s choice of options. • Suggest alternatives for behavior. • Explain the reasons for tasks. • Be fair in your expectations and redirect as needed. Help the individual practice for awkward social situations or cues. Come up with default phrases the individual can use for when they are not sure how to respond. • Respond immediately to inappropriate ideas, but maintain the original focus of the discussion. • Encourage the person to slow down and think through tasks or responses. • Provide supportive verbal and non-verbal feedback for reassurance. • If undesired behavior occurs, calmly and confidently discuss the consequences in private. (insert line from general presentation about how every time you let a bad behavior go, you reinforce it) • Praise and reared desired behavior. |

4.3.2 Impaired Self-Awareness

| Signs | What individuals with brain injury can do to help themselves | What family/friends can do to help |
|---|--|---|
| <ul style="list-style-type: none"> • Demonstrates a lack of awareness of deficits and limitations (this is not typically intentional, but rather a common phenomenon following TBI) • Overestimates abilities, underestimates problems • Inaccurate self-image/self-perception | <ul style="list-style-type: none"> • Allow others you trust to provide feedback and reminders. • Keep a running log of attributes in which you excel and create goals for areas you need improvement with. | <ul style="list-style-type: none"> • Anticipate lack of insight, and provide gentle reminders as needed. • Prompt accurate self-statements. • Use (constructive) feedback generously and supportively. • Give realistic feedback as you observe behavior. |

4.3.3 Problem: Difficulty participating in or being part of social situations

| Signs | What individuals with brain injury can do to help themselves | What family/friends can do to help |
|---|---|--|
| <ul style="list-style-type: none"> • Acts or speaks without all the information or without considering the consequences • Difficulty taking turns • Impulsiveness • Socially inappropriate behavior or comments • Not always sensitive to social boundaries • Acting out of place in unfamiliar social or public settings | <ul style="list-style-type: none"> • Rehearse behaviors and social situations to better prepare yourself for social interaction. • Keep a list of topics you should avoid in conversation and review this often. Reciting this can help. • Excuse yourself if you find yourself uncomfortable and anxious in the situation. • Wear an article or bracelet as a cue reminder to slow down and think things over. Listen to the cues provided by your support team and adjust your behavior. • Find an appropriate way (individual to you) to decrease stimuli and provide cognitive rest needed for processing. | <p>What to do before the event:</p> <ul style="list-style-type: none"> • Provide clear expectations for desirable behavior in social settings or in special circumstances such as job interviews, attending a funeral or going to church. • Plan and rehearse social interactions so that they will be familiar, predictable and consistent. • Establish verbal and non-verbal cues to signal the person to “stop and think.” • Ask them what the consequence will be. <p>What to do during the event:</p> <ul style="list-style-type: none"> • Treat the person appropriately, according to age. • Encourage the person to slow down and think through responses. • Prompt the person to consider consequences of behavior. • Provide positive feedback for appropriate behavior. • Encourage a break in activity when frustration or fatigue are evident. Respond immediately to inappropriate ideas but maintain the original focus of the discussion. • If undesired behavior occurs, calmly and confidently address the behavior in private. Be objective and explain that the behavior, not the person, is inappropriate. • Reassure and be fair in your expectations. <p>What to do after the event:</p> <ul style="list-style-type: none"> • Review the behavior, the effectiveness of verbal and nonverbal uses, and the overall success of the outing. • Praise appropriate behavior and responses to cues and redirection. |

4.4 WHAT EMOTIONAL CHANGES CAN OCCUR AFTER BRAIN INJURY

A brain injury can affect the areas of the brain that control emotions. The following are common emotional problems for a person with a brain injury and suggested ways to help.

4.4.1 Difficulty controlling emotions

| Signs | What individuals with brain injury can do to help themselves | What family/friends can do to help |
|--|---|---|
| <ul style="list-style-type: none"> • Mood swings ranging from anxious to sad to angry • Inappropriate laughing or crying • Lower tolerance for frustrating situations | <ul style="list-style-type: none"> • Attend to early signs of emotionality. Be aware of factors that contribute to increased emotionality (e.g., fatigue, pain). Try to minimize exposures to situations that are associated with increased emotionality. • Speak to your provider about pseudobulbar effect: when people laugh or cry in inappropriate times (laughing over the death of a loved one). • Have family members/friend give a signal to help with stopping and considering behaviors before acting further. Accept feedback from trusted others regarding when it is important to stop. • Use strategies to cope with high emotionality, including: <ul style="list-style-type: none"> • Using words to express emotions. • Removing self from the stress-inducing situation. • Using relaxation techniques (can be developed with the aid of psychologist). • Enlist the help of trusted family member, friends, and healthcare providers in developing strategies to manage emotional responses. | <ul style="list-style-type: none"> • Expect the unexpected. • Remain a model of calm assurance and confidence if an emotional outburst occurs. • Take the person to a quiet room or area for time to calm down and regain control. • Provide feedback gently and supportively after the person regains control. • Avoid comparing past and present behaviors. • Gently redirect behavior to a different topic or activity. • Recognize that the person may use negative comments or refusal as a means of control. • Understand that brain injury often prevents the individual from feeling guilt or empathy. • Recognize your emotional reactions to the person with brain injury. |

4.4.2 Intermittent Distress (comes and goes)

| Signs | What individuals with brain injury can do to help themselves | What family/friends can do to help |
|---|---|---|
| <ul style="list-style-type: none"> • Unhappiness and irritability • Cries easily • Responds angrily for no apparent reason | <ul style="list-style-type: none"> • Assess yourself for emotional changes before they occur. Articulate your feelings and identify coping strategies that decrease irritability. Document these strategies or instructions in your reminder device, so you can recall them whenever you need. • Do not feel ashamed with how you feel. Work with others to identify strategies to help you find relief, such as taking a deep breath, removing yourself, or allowing yourself time. Some individuals may find it beneficial to keep an emotional journal so that they can keep a record of how they were feeling in the moment. Overtime you may find trends of thought that lead to the crying behavior, which can help to provide steps with coping. • Practice anger-management strategies before anger occurs. Learn to identify early signs of anger. Learn to identify situations (“triggers”) that can lead to anger. • Seek to include regular activity, hobbies, and other sources of enjoyment in one’s life. • Get help from family, friends, health care providers, and others in efforts to learn and use anger-management strategies. | <ul style="list-style-type: none"> • Acknowledge feelings. Connect individual with support networks, peers, and counseling. Assure quality of life is a part of the goals in their recovery. Learn to assess for triggers, and redirect the individual, or support them prior to challenging or upsetting events. • Give the person a chance to talk about feelings. Actively listen and validate as needed. Consult health care team with any questions or concerns. • Listen and express your desire to understand those feelings. • Encourage behaviors that have helped cope with stress in the past. |

4.4.3 Grief

| Signs | What individuals with brain injury can do to help themselves | What family/friends can do to help |
|---|--|---|
| <ul style="list-style-type: none"> • Tearfulness • Restless sleep • A change in appetite | <ul style="list-style-type: none"> • Carry a tissue with you on hand, and take time as needed. Speak to you caregivers about what you are feeling and communicate with others about why you are upset. Consider joining a support group to connect with individuals who are going through similar experiences and to develop a support network. • Communicate your sleeping issues and what is specifically bothering you. Create a routine to help you relax before bed, and when you wake up—to decrease mental stress. Ask questions to your support team and healthcare professionals about obtaining more restful sleep. • Increase appetite: Utilize healthy snacks that are provided and keep unhealthy foods at a minimum. Provide reminders of when you last ate and make sure there is time between meals and snacks. Drink plenty of water. • Decrease appetite: Set reminders to eat. Carry small snacks on hand to consume throughout the day. Create a meal plan and adhere to eating schedules. • Seek guidance from a member of the health care team. | <ul style="list-style-type: none"> • Remind the person that grief is a healthy and normal response. Keep an open line of communication and implement active listening. • Explain the coming to terms with the loss of some abilities may take time. Set a routine for sleep, and consult medical team for other appropriate interventions. • Offer whatever support you can provide to maintain healthy nutrition. Assist with the preparation of premade, healthy snacks and keep plenty of water available. • Decreased appetite: Provide reminders to eat, if needed. Provide incentives and encourage little snacks throughout the day. Keep their favorite foods in stock. • Seek guidance from a member of the health care team. |

4.4.4 Depression

Feelings of sadness, frustration and loss are common after a brain injury. Such feelings often appear during the later stages of recovery, when confusion decreases and self-awareness improves. However, if these feelings become overwhelming or interfere with recovery, the person may be suffering from depression.

Depression can arise as the person struggles to adjust to temporary or lasting disability caused by a brain injury. Depression also may occur if the injury has affected areas of the brain that control emotions.

Being depressed is not a sign of weakness, nor is it anyone's fault. Depression is an illness. A person cannot get over depression by simply wishing it away, using more willpower or "toughening up." Depression after brain injury may result from biochemical and structural changes in the brain. Fortunately, medication and other therapies can help most people who have depression.

Symptoms of depression include:

- Persistent sadness
- Irritability, moodiness
- Anxiety
- Loss of interest or pleasure in life
- Neglect of personal responsibilities or personal care
- Changes in eating habits or sleeping patterns
- Fatigue, loss of energy, lack of motivation
- Extreme mood changes
- Feeling helpless, worthless or hopeless
- Physical symptoms such as headaches or chronic pain that do not improve
- Withdrawal from others
- Thoughts of death or suicide*

If the person with brain injury has symptoms of depression, their health care provider should be consulted. Effective treatments are available, including individual and group therapy, medication or a combination. Early treatment can help prevent needless suffering. Mental health professionals, including rehabilitation psychologists and social workers, are available to assist.

Since signs of depression are also symptoms of a brain injury itself, having these symptoms doesn't necessarily mean the individual with a brain injury is depressed.⁴² The problems are more likely to mean depression if they show up a few months after the injury rather than soon after it.⁴² It is best to discuss any concerns you have with a member of the health care team.

*If your loved one expresses suicidal thoughts or threatens harm to themselves and/or others, immediately call 911 or your local emergency services provider.

4.4.5 Self-Esteem

Self-esteem is a person’s assessment of self-worth and is often adversely (negatively) affected by brain injury. A problem may be more significant if the person with brain injury has had a mild to moderate brain injury or a severe injury with good self-awareness. The more aware the person with a brain injury is, the more likely there will be changes in their self-esteem.

| What you can do | What family/friends can also do |
|---|--|
| Focus on the positives. | Allow the person to express feelings. |
| Focus on other’s perceptions as well as your own. | When necessary, redirect conversation to positive or neutral thoughts. |
| Explain your feelings truthfully to trusted persons. | Express your concern and desire to understand the person’s feelings. |
| Accept encouragement and compliments; see how far you have gone. | Point out the person’s successes, even partial successes. |
| Try to do things on your own. Ask for help when needed. | Encourage as much independence as possible. |
| Move forward. Try not to dwell on negatives, or opinions and thoughts you cannot control. | Do not criticize. |
| Allow individuals to help you, and document advice you wish to follow. | Give caring, realistic, constructive feedback. |
| Create steps for the future and mark them off as you accomplish your goals. | Help the person plan beforehand to maximize opportunities for success. |
| Find activities that you enjoy, and do them often. | Choose activities and tasks that the person can successfully complete. |

Challenges vary among people with brain injury. Be aware of how you reference the person with brain injury. Avoid labeling, categorizing or stereotyping a behavior or communication skill that was altered by the injury. Learning as much as possible about brain injury and exercising patience and compassion are good steps toward understanding and nurturing the self-esteem of the person who has sustained the brain injury.

4.5 WHAT COMMUNICATION CHANGES CAN OCCUR AFTER BRAIN INJURY

Difficulties with communication can be caused by many factors, including changes in behavior and thinking skills, problem solving, judgment, reasoning, awareness, memory loss and lack of self-awareness. Language ability and speech may also be affected by a brain injury.

After a brain injury, there may be changes in one or many of these areas. The severity and combination of problems vary widely among individuals.

4.5.1 Initiating Conversation

| Signs | What individuals with brain injury can do to help themselves | What family/friends can do to help |
|--|---|---|
| <ul style="list-style-type: none"> Does not respond to another person's conversation, questions or comments Does not start, or is slow to start conversations, ask questions, or make comments Leaves long pauses Has difficulty with explanations | <ul style="list-style-type: none"> Keep a list of conversation topics with you as inspiration. Let those you are conversing with know that you have difficulty and suggest ways for them to assist, if any are known. | <ul style="list-style-type: none"> Encourage the individual to participate. For example, ask, "What do you think about that?" Ask open-ended questions such as, "Tell me about..." Give the person time to organize thoughts. Extra time may be necessary to respond to any request or questions. Give the individual your full attention until the thought is completed. Rephrase what they have said such as, "Do you mean..." |

4.5.2 Following Conversation

| Signs | What individuals with brain injury can do to help themselves | What family/friends can do to help |
|---|---|---|
| <ul style="list-style-type: none"> Has difficulty paying attention to what is said Misinterprets what is said | <ul style="list-style-type: none"> Look at the person who is speaking with you. If something is distracting you, try to reduce the distraction or ask for assistance in reducing the distraction (for example, turning the lights down or off if they are too bright). Repeat what has been said to you for clarification. | <ul style="list-style-type: none"> Get the person's attention before speaking. Be clear and concise. Reduce distractions. Emphasize important information. Offer to repeat what was said. Ask the person to look at you when speaking. Invite the person to ask questions or request clarification. Ask the person to relay the information back to you in their own words to ensure they have understood what you are trying to tell them. |

4.5.3 Taking Turns in Conversation

| Signs | What individuals with brain injury can do to help themselves | What family/friends can do to help |
|--|---|---|
| <ul style="list-style-type: none"> • Talks non-stop, does not give the listener a turn to speak • Does not appear to adjust communication style or behavior for the situation • Has a difficult time selecting topics for conversation • Has a difficult time keeping up with transitions, or when topics change • Introduces a new topic abruptly • Does not always stay on topic | <ul style="list-style-type: none"> • Set a timer for yourself while talking. • Ask for cues if you are not adjusting your communication style or behavior for the situation. • Ask clarifying questions if you don't understand when the conversation topic has changed. | <ul style="list-style-type: none"> • Politely interrupt and ask for a chance to speak. • Ask the person to, "Please make it brief," or announce that you would like to speak. • Ask about the person's interests and opinions. • Clarify new topics as they arise. • Ask how the person's comment relates to the topic, for example, "Do you mean..." • Tell the person you are confused or "getting lost" in the conversation. |

4.5.4 Difficulty with Intelligibility (annunciating)

| Signs | What individuals with brain injury can do to help themselves | What family/friends can do to help |
|--|---|---|
| <ul style="list-style-type: none"> • Slurred Speech • Speaks too loudly or softly, making the message hard to understand • Speaks too rapidly | <ul style="list-style-type: none"> • Keep a card in your wallet to show to people when you have difficulty communicating. • Ask for cues when speaking too soft, loud, or fast. | <ul style="list-style-type: none"> • Tell the person you did not understand and ask to hear it again. • Establish and use consistent gestures or cues (for example, cup your hand to your ear as a reminder to speak louder). |

4.5.5 Nonverbal communication

| Signs | What individuals with brain injury can do to help themselves | What family/friends can do to help |
|---|--|---|
| <ul style="list-style-type: none"> • Does not seem to understand common non-verbal cues • Stands too close or too far from conversational partner(s) • Uncomfortable number or type of physical contacts • Body language that does not seem to “match” what is said • Facial expressions that do not seem to “match” what is said • Distracting, repetitive or excessive body movement • Poor eye contact • Staring at others during conversation | <ul style="list-style-type: none"> • Ask for cues when you are standing too close or far from a conversation partner, body language • Ask questions when facial expressions aren’t matching what was said • Be mindful of intense eye contact • Be mindful if a lack-of eye contact is occurring. • Be open to suggestions and willing to try new things • Be upfront about your bubble so that others are aware of what is naturally comfortable to you. • Ask about their bubble. | <ul style="list-style-type: none"> • Ask the person to maintain a comfortable distance. • Politely ask the person to modify their physical contacts because you feel uncomfortable; offer an explanation if necessary. • Tell the person you are confused by the different in body language and spoken message. • Ask what the person is feeling. • Politely ask the individual to stop distracting movements. |

4.6 WHAT OTHER PHYSICAL CHANGES CAN OCCUR AFTER BRAIN INJURY

A brain injury can affect physical abilities such as balance, mobility, coordination and muscle strength, tone and control. It may also affect the body's senses (hearing, vision, smell, touch and taste). In addition, a brain injury can cause fatigue and conditions such as seizures, spasticity and swallowing difficulties.

4.6.1 Fatigue

Fatigue is very common during recovery from brain injury. Fatigue may result from the injury (and other injuries in cases of trauma) or from additional physical and mental effort required to do tasks that once were performed with little or no effort. Physical functioning, attention and concentration, memory and communication can be adversely affected by fatigue.

When a person with a brain injury first returns home, knowing how much that person can or should do can be difficult. Often during this transition, the person and family members become discouraged with the slow pace of recovery, changes in responsibilities, or they may try to do or expect too much. This is just one step in the recovery process. In time, the person's stamina and energy level likely will improve, and the ability to engage in activities may be increased.

The following strategies may be useful in helping the person with brain injury learn to manage fatigue:

- Encourage use of a calendar or planner to help manage mental fatigue.
- Set a schedule that includes regular rest breaks or naps. Rest breaks or naps should not exceed 30 minutes.
 - For example, one nap in the morning and one in the afternoon after some activity, physical or mental.
- Avoid evening naps.
- Gradually decrease the length and number of breaks as the person's ability to tolerate activities with less fatigue improves.
- Resume activities gradually, over weeks or even months.
- Start with familiar tasks that the person can complete without fatigue.
- Gradually increase the complexity of the task, encouraging breaks as needed, to slowly increase the length of time.
- Become familiar with indicators of fatigue for that specific individual.
- Watch for signs of fatigue, such as increase inattention or distractibility, repetition of tasks or comments, irritability or increased errors.
- Encourage breaks, every five minutes, during tasks, before or as soon as signs of fatigue appear.
- If the health care team recommends, use assistive aids to conserve energy.
 - For example, a cane for walking, or a wheel chair for long distances.
- Plan for fatiguing activities, such as visitors, trips and going out.
- Schedule a nap before visitors come or before going out.
- Consider limiting the person's time with visitors or a rest break during visits.

4.6.2 Seizures

A medical condition that may occur after brain injury is post-traumatic seizure. Seizures can be caused by a sudden, excessive, disorderly electrical discharge of brain cell activity. The risk of ongoing seizures is related to the severity and characteristics of the brain injury, such as the type and location of the brain injury. Risk seems to be greatest in the months after injury, then gradually declines with time.

Several types of seizures may occur after brain injury. The most frequent types are generalized (grand mal, tonic/clonic) and partial (partial complex and simple partial) seizures.

4.6.2.1 Generalized Seizures

Grand mal, tonic/clonic seizures usually involve involuntary jerking or shaking of most or all four limbs, unresponsiveness, and loss of bladder control.

Most seizures are self-limited and last only a few minutes. The person may cry out, stiffen and fall, have jerking movements, turn flushed or blue and have some difficulty breathing. Remain calm and take the following steps:

- Make sure the person is in a safe area and lay the person's head on something soft if a fall occurred.
- Loosen tight clothing such as a necktie or belt and remove eyeglasses.
- Clear away hazardous objects that may be nearby.
- Position the person lying on their side to keep the chin away from the chest. This will allow saliva to drain from the mouth.
- Do not force your fingers or any object into the person's mouth.
- **Do not restrain the person. You cannot stop the seizure and could injure them.**

****Dial 911 for emergency assistance in these situations: ****

- Breathing does not resume after the seizure and mouth-to-mouth resuscitation is necessary.
- Before the person recovers from the first seizure and another seizure begins.
- The person has been injured during the seizure.
- The person has awakened and requests an ambulance for emergency medical attention.
- The seizure continues for more than 5 minutes.

Prompt medical care is also recommended if this seizure is the person's first or if the person's level of alertness remains impaired.

After the seizure, the person usually will be temporarily confused and drowsy. Do not offer food, drink or medication until the person is fully awake. Someone should stay with the person until fully recovered. Check for a medical identification tag on a bracelet or necklace.

Until a predetermined seizure-free interval has been maintained (often six months to one year), driving privileges are restricted by state law (insert link here for WA state law, if any). During this time, extreme caution should be taken if the person will be working around heavy or dangerous equipment.

4.6.2.2 *Partial Seizures*

Partial complex seizures may involve loss of awareness, inappropriate verbal response, purposeless movement, staring or repetitive chewing, swallowing or lip-smacking motions.

Simple partial seizures are involuntary jerking or shaking of one part of the body without loss of consciousness. These may spread to other body parts and become generalized. In this situation:

- Do not try to restrain the person unless safety is jeopardized.
- Try to remove nearby hazardous or harmful objects.
- Arrange for someone to watch the person until full awareness returns.

Medical assistance generally is not necessary when partial seizures occur except when one seizure follows another in a continuous series, or when a partial seizure develops into a generalized seizure and the person is not recovering.

If your loved one develops seizures following a brain injury, your health care team will work with you and your family on treatment options to effectively manage the seizures.

4.6.3 *Spasticity*

Injury to the part of the brain that controls movement can cause spasticity, an abnormal increase in muscle tone. (Tone is the amount of tension or resistance to movement in a muscle). Unlike a normal muscle, when stretched, a spastic muscle does not easily relax. Instead, the muscle remains stiff or perhaps non-moveable.

Spasticity usually is not immediately present after a brain injury, but may develop gradually over weeks or months. Spasticity symptoms range from slight to severe muscle stiffness. Spasticity can impair the ability to dress, eat, write, balance, move and walk.

Managing spasticity may be a lifelong process. Treatment varies depending on the person's age, severity of symptoms, and related conditions or complications. Your health care team can provide more information.

4.6.4 *Swallowing*

Problems that affect swallowing (known as dysphagia) may occur after brain injury. Swallowing is coordinated by the brainstem and the brain's frontal lobes. The brainstem, which connects the brain to the spinal cord, relays messages to and from the swallowing structures (mouth, tongue, throat). The brain's frontal lobes control the muscle action of the swallowing structures.

Problems that affect swallowing after brain injury can vary widely and may include one or more of the following:

- Poor head or upper body control
- Decreased lip and tongue strength, range of motion and coordination
- Impaired memory or concentration
- Any or all the above may cause aspiration (inhaling food or liquid into the lungs)

If a person seems to have trouble swallowing, a clinical swallowing evaluation and video fluoroscopy (a videotaped x-ray of the swallowing process) may be done. With test results, decisions can be made about treating any swallowing problems.

A person who has trouble swallowing, may need nutrition through a nasogastric or gastrostomy tube (feeding tube through the nose or stomach). Having either tube does not rule out the possibility of eating by mouth, but ensures proper nutrition and hydration (fluid intake). How long the tube is in place depends on the person's progress.

Exercises, treatment techniques and positioning may help improve a person's ability to chew and swallow. An occupational therapist or speech therapist will teach the person with brain injury and caregivers learn how to perform these exercises and techniques. Treatment depends on the cause, symptoms, and type of swallowing problem. A speech-language pathologist may recommend the following:⁵⁵

- Specific swallowing treatment (exercises to improve muscle movement)⁵⁵
- Positions that help the individual swallow more effectively⁵⁵
- Specific food and liquid textures that are easier and safer to swallow⁵⁵

After the evaluation, family members or caregivers can help by:

- Prompting the individual to complete exercises⁵⁵
- Prepare the recommended textures of food and liquid, making sure that recommendations for eating safely are followed⁵⁵
- Keep a journal of how much food or liquid is consumed⁵⁵

As a caregiver, your encouragement and help with the swallowing program is essential.⁵⁵ Most people regain the ability to swallow after brain injury, though it may take longer for some.⁵⁵

4.6.5 Bowel and bladder changes

Brain injury may affect bowel and/or bladder function. The injured person may need help re-establishing and maintaining a pattern of regular bowel and/or bladder emptying.

Bowel management

The goals of bowel management include establishing a regular emptying pattern, maintaining dry, healthy skin, and avoiding incontinence, diarrhea, and constipation. Each person is assessed by a physician and recommendations are made as needed.

Bowel problems can occur if the person with brain injury cannot:

- Control bowel emptying voluntarily
- Recognize bowel fullness and the need to have a bowel movement
- Ask for help to the bathroom
- Walk to the bathroom
- Eat enough food with fiber and drink enough fluids
- Account for restroom breaks and fatigue beforehand
- Allow enough time to get to the bathroom

To maintain optimal bowel function, a person with brain injury should eat at regular times, focus on eating foods with fiber, drink the amount of fluids recommended by the dietitian or physician, and be as active as possible. Meeting with a dietitian to discuss a diet plan may be helpful. The person may be asked to follow a bowel schedule, which include attempting to schedule a bowel movement at the same time daily and establishing regular times for meals.

At certain stages of recovery, your loved one may need to use other methods for bowel emptying (fiber supplements, stool softeners, suppositories, and/or laxatives). These methods typically are not used regularly because they decrease the colon's natural abilities, and these methods may be habit forming. Most individuals with brain injury regain the ability to regularly and effectively empty their bowels.

Bladder Management

People with brain injury may also have a problem with urination (bladder emptying) during the post-injury period. Difficulties with urination that were present prior to the injury (an enlarged prostate in men or a pattern of infrequent urination in men or women) may add to bladder problems after brain injury. The goals of bladder management include preserving kidney function, preventing incontinence (accidental urination), preventing bladder overfilling and bladder infections, establishing a regular pattern of urination with complete bladder emptying, and maintaining dry, healthy skin in the genital area.

Problems with bladder management may include:

- Urinary retention (an inability to void or pass urine)
- Urinary incontinence
- Increased urgency to urinate
- Increased frequency of urination
- Incomplete emptying of the bladder
- Bladder infections
- Skin problems because of incontinence

The most common reason for bladder problems after brain injury is damage to the frontal lobe of the brain. A less common cause is direct damage to the part of the brain that controls behaviors and memory. Damage to these areas may result in the inability to:

- Ask for help
- Control urination
- Recall when last urination occurred
- Make note to use the restroom beforehand
- Walk to the bathroom in time
- Recognize the sensation of bladder fullness or the need to urinate

Early in the care of someone with brain injury, the bladder may be drained continuously through an indwelling catheter (a tube inserted and left in the bladder). The urine emptied through the catheter into a drainage bag which also allows for accurate recording of urine output. As the patient improved, the catheter usually is removed.

If the person cannot sense the need to urinate, other approaches to bladder management are considered, including:

- Keeping the indwelling catheter in the bladder
- Intermittent catheterization (inserting and removing a catheter several times a day to regularly empty the bladder)
- Schedule attempts at urination
- Using an external condom catheter for men
- Using an adult diaper
- Other methods of bladder retraining to control urination may be recommended

To maintain optimal bladder function, a person with brain injury should drink fluids as recommended by the dietitian or physician. It may be helpful to meet with a bladder therapist to develop an individual plan. Most individuals living with brain injury regain the ability to regularly and effectively empty their bladder.

5 CONCLUSION

Navigating brain injury can be difficult, time consuming, and unclear. It is often met with challenges and uncertainties that are not easily understood within the community, by your friends, loved ones, or established team. Therefore, it is important to practice self-care and to access the supports that are available to you.

We at the Brain Injury Alliance of Washington are here to help you! We care about your story, your goals, and want to assure you are adequately supported individual and within your community.

Please do not hesitate to contact us:

Washington Brain Injury Resource Line: 1-877-982-4292

Available Monday-Friday, 9:00 a.m. to 5:00 p.m. PST/PDT

Email: info@biawa.org

Mail: P.O. Box 3044, Seattle, WA 98114

6 ADDITIONAL BRAIN INJURY RESOURCES

Brain Injury Associations & Alliances

- Brain Injury Alliance of Washington: <http://www.biawa.org> or 1-877-982-4292
- American Stroke Association: <http://www.strokeassociation.org>
- National Stroke Association: <http://www.stroke.org>
- Brain Injury Association of America: <http://www.biausa.org>
- Brain Injury Alliance of Oregon: <http://www.biaoregon.org>
- Washington TBI Council: www.tbiwashington.org

Informational Websites

- Brain Injury Resource Center: <http://www.headinjury.com>
- Brainline: <http://www.brainline.org>
- Headstrong: <http://www.headstrongforlife.org>
- TBI Survivors Network: <http://www.tbisurvivorsnetwork.ning.com>
- Brain Injury Support Community: www.braininjuryhelp.org
- Brain Injury Support Team: <http://www.braininjurysupportteam.org>
- Cognitive Harmonies Inc: www.cogharmony.com
- Lessons from Lois: <http://www.lessonsfromlois.com>

Publication Websites

- CDC TBI/BI Literature: www.cdc.gov/pubs/ncips.aspx#tbi1
- Center for Neuro Skills: www.neuroskills.com OR 1-800-922-4994
- The Defense and Veterans Brain Injury Center: www.dvbic.org OR 1-800-870-9244
- Lash & Associates Publishing/Training Inc: <http://www.lapublishing.com>
- TBI Washington Training for Caregiver: www.tbiwashington.org
- *Traumatic Brain Injury: A Guide for Caregivers of Service Members and Veterans:* www.traumaticbraininjuryatoz.org

7 ACRONYM INDEX

AAT- Animal Assisted Therapy
ABD- Aged, Blind, Disabled Benefits
ABI- Acquired Brain Injury
ADA- Americans with Disabilities Act
ADED- Association for Driver Rehabilitation
AFH- Adult Family Home
ALF- Assisted Living Facility
BFET- Basic Food Employment Training
BHO- Behavioral Health Organization
BIAA- Brain Injury Association of America
BIAWA- Brain Injury Alliance of Washington
CAM- Complementary Alternative Medicine
COPES- Community Options Program Entry System
CSO- Community Services Office
CT- Computerized Tomography Scan
DDS- Disability Determination Services
DOJ- Department of Justice
DOT- Department of Transportation
DPOA- Durable Power of Attorney
DSHS- Department of Social and Health Services
DVR- Department of Vocational Rehabilitation
EBT- Electronic Benefits Transfer
FCE- Functional Capacity Evaluation
FDA- Food and Drug Administration
FLA- Family Leave Act
FMLA- Family and Medical Leave Act
FMRI- Functional Magnetic Resonance Imaging

GCS- Glasgow Coma Scale
HBOT- Hyperbaric Oxygen Therapy
HEN- Housing and Essential Needs Benefits
HUD- Housing and Urban Development
IDEA- Individual Education Act
IME- Independent Medical Examination
IRF- Inpatient Rehabilitation Facility
L&I- Labor & Industries (Worker's Compensation)
LTACH- Long Term Acute Care Hospital
MRI- Magnetic Resonance Imaging
NGMA- Non-Grant Medical Assistance
PIP- Personal Injury Protection
POA- Power of Attorney
REAP- Reduce/Remove, Educate, Adjust/Accommodate, Pace
RISE- Resources to Initiate Successful Employment
SNF- Skilled Nursing Facility
SSA- Social Security Administration
SSDI- Social Security Disability Income
SSI- Supplemental Security Income
TANF- Temporary Assistance for Needy Families
TBI- Traumatic Brain Injury
WCCC- Working Connections Child Care

8 BIBLIOGRAPHY

1. AARP. (n.d.). Real Possibilities. Retrieved from <http://www.aarp.org/>
2. Abashian, M. C., & Reyst, H. (2016). *The Essential Brain Injury Guide* (5th ed.). Brain Injury Association of America. ISBN:978-0-927093-0-64
3. Adler, Richard - see Legal Reference section below
4. ARC of Washington State. (n.d.). The Arc of Washington State. Retrieved from <http://arcwa.org/>
5. Ausbrooks, C., & Harris, B. (2017). What are orthotic devices? Retrieved from <http://www.wisegeekhealth.com/what-are-orthotic-devices.htm>
6. Brain Injury Association of America. (2015). About Brain Injury. Retrieved from <http://www.biausa.org/about-brain-injury.htm>
7. Brain Injury Association of America. (2015). Treatment. Retrieved from <http://www.biausa.org/brain-injury-treatment.htm#Professionals>
8. BrainLine. (n.d.). BrainLine Homepage. Retrieved from <http://www.brainline.org/>
9. Chrisman, L. (2005). Craniosacral therapy. In J. L. Longe (Ed.), *The Gale Encyclopedia of Alternative Medicine*, 2(1), 563-565. Retrieved from <http://go.galegroup.com.ezproxy1.lib.asu.edu/ps/i.do?p=GVRL&sw=w&u=asuniv&v=2.1&it=r&id=GALE%7CCX3435100229&sid=summon&asid=092dfbc67ce21708162d0a63f60729eb>
10. Davidson, T. (2006). Hyperbaric Chamber. *The Gale Encyclopedia of Medicine*, 3(3), 1874-1875. Retrieved from <http://go.galegroup.com.ezproxy1.lib.asu.edu/ps/i.do?p=GVRL&sw=w&u=asuniv&v=2.1&it=r&id=GALE%7CCX3451600817&asid=924ff8c98783baaf8e1ec53f1b5a30354>
11. Department of Social Health Services. (n.d.). Agencies that help: Family caregiver support program (FCSP). Retrieved from <https://www.dshs.wa.gov/altsa/home-and-community-services/agencies-help#FCSP>
12. Division of Vocational Rehabilitation. (n.d.). *DVR a Guide to Services* [Pdf]. Olympia: Department of Social Health Services.
13. Ernst, E. (2006). Acupuncture – a critical analysis. *Journal of Internal Medicine*, 259(2), 125-137. doi:10.1111/j.1365-2796.2005.01584.x
14. Eunice Kennedy Shriver National Institute of Child and Human Development. (n.d.). Cognition and Neuropsychological Tests. Retrieved from <https://www.nichd.nih.gov/health/topics/tbi/conditioninfo/Pages/diagnose.aspx# cognition>
15. Eunice Kennedy Shriver National Institute of Child and Human Development. (n.d.). Magnetic Resonance Imaging. Retrieved from <https://www.nichd.nih.gov/health/topics/tbi/conditioninfo/Pages/diagnose.aspx# cognition>
16. Eunice Kennedy Shriver National Institute of Child and Human Development. (n.d.). Neuropsychological Assessments. Retrieved from <https://www.nichd.nih.gov/health/topics/tbi/conditioninfo/Pages/diagnose.aspx# cognition>
17. Explore Health Careers. (n.d.). Orthotist and Prosthetist. Retrieved from <https://explorehealthcareers.org/career/allied-health-professions/orthotist-and-prosthetist/>
18. Farlex Medical Dictionary. (n.d.). Adaptive equipment. Retrieved from [http://encyclopedia.thefreedictionary.com/Adaptive equipment](http://encyclopedia.thefreedictionary.com/Adaptive+equipment)
19. Farlex Medical Dictionary. (n.d.). Bathtub seat. Retrieved from [http://medical-dictionary.thefreedictionary.com/bathtub seat](http://medical-dictionary.thefreedictionary.com/bathtub+seat)
20. Farlex Medical Dictionary. (n.d.). Cane. Retrieved from <http://medical-dictionary.thefreedictionary.com/cane>
21. Farlex Medical Dictionary. (n.d.). Crutches. Retrieved from <http://medical-dictionary.thefreedictionary.com/Crutches>
22. Farlex Medical Dictionary. (n.d.). Gait training. Retrieved from [http://encyclopedia.thefreedictionary.com/Gait Training](http://encyclopedia.thefreedictionary.com/Gait+Training)
23. Farlex Medical Dictionary. (n.d.). Lift chair. Retrieved from [http://encyclopedia.thefreedictionary.com/Lift chair](http://encyclopedia.thefreedictionary.com/Lift+chair)

24. Farlex Medical Dictionary. (n.d.). Mindfulness meditation. Retrieved from [http://medical-dictionary.thefreedictionary.com/mindfulness meditation](http://medical-dictionary.thefreedictionary.com/mindfulness+meditation)
25. Farlex Medical Dictionary. (n.d.). Standing frame. Retrieved from [http://encyclopedia.thefreedictionary.com/standing frame](http://encyclopedia.thefreedictionary.com/standing+frame)
26. Farlex Medical Dictionary. (n.d.). Walker. Retrieved from <http://medical-dictionary.thefreedictionary.com/walker>
27. Farlex Medical Dictionary. (n.d.). Wheelchair. Retrieved from <http://medical-dictionary.thefreedictionary.com/wheelchair>
28. Ford-Martin, P. (2002). Art Therapy. In K. Krapp (Ed.), *The Gale Encyclopedia of Nursing and Allied Health* (Vol. 1, pp. 203-206). Detroit: Gale. Retrieved from <http://go.galegroup.com.ezproxy1.lib.asu.edu/ps/i.do?p=GVRL&sw=w&u=asuiv&v=2.1&it=r&id=GALE%7CCX3405900071&sid=summon&asid=389cf5fa36f5010a39947f5ddba63d6e>
29. Harbrecht, B.G, Delgado E., Tuttle R.P., Cohen-Melamed M.H., Saul, M.I., & Valenta, C.A. (2009). Improved outcomes with routine Respiratory Therapist evaluation of non-intensive-care-unit surgery patients. *Respiratory Care*. 54 (7): 861–7. PMID 19558737.
30. Headway Brain Injury Association. (n.d.). About brain injury. Retrieved from <https://www.headway.org.uk/>
31. Hormone Health Network. (2017). What is an Endocrinologist? Retrieved from <http://www.hormone.org/contact-a-health-professional/what-is-an-endocrinologist>
32. Johnson, G., Dr. (2010). Who are all these professionals? Retrieved from <http://www.tbiguide.com/whoprofessionals.html>
33. Lefebvre, R., Peterson, D., & Hass, M. (2013). Evidence-based practice and chiropractic care. *Journal of Evidence-Based Complementary & Alternative Medicine*, 8(1), 75-79. doi:10.1177/2156587212458435
34. Mayo Clinic Staff. (2016). Botox injections. Retrieved from <http://www.mayoclinic.org/tests-procedures/botox/home/ovc-20196291>
35. Mayo Clinic. (2017). Mayo clinic school of health sciences: Child life specialist. Retrieved April 09, 2017, from <http://www.mayo.edu/mayo-clinic-school-of-health-sciences/careers/child-life-specialist>
36. Mayo Clinic. (2017). Neuro-Otology. Retrieved from <http://www.mayo.edu/research/departments-divisions/department-neurology/programs/neuro-otology>
37. Mayo Clinic Staff. (2017). Traumatic brain injury symptoms. Retrieved from <http://www.mayoclinic.org/diseases-conditions/traumatic-brain-injury/basics/symptoms/con-20029302>
38. MAYO Foundation for Medical Education and Research. (2008). *Understanding Brain Injury: A guide for the family* (pp. 1-64, Publication No. Mc1298-01). Rochester, Minnesota: MMFER. doi:<http://www.biaia.org/docs/alliance/ubi-families-8.pdf>
39. Merriam-Webster Incorporated. (n.d.). Dentist. Retrieved April 09, 2017, from <https://www.merriam-webster.com/dictionary/dentist>
40. Merriam-Webster Incorporated. (n.d.). Neurobehavioral Medical Definition. Retrieved from <https://www.merriam-webster.com/medical/neurobehavioral>
41. Miller Keane Encyclopedia and Dictionary of Medicine, Nursing and Allied Health. (2003). *Vocational Counselor* (7th ed.). Saunders, an imprint of Elsevier, Inc.
42. Model Systems Knowledge Translation Center. (n.d.). Emotional Problems After Traumatic Brain Injury. Retrieved May 04, 2017, from <http://www.msktc.org/tbi/factsheets/Emotional-Problems-After-Traumatic-Brain-Injury>
43. Moyer, C. A., Rounds, J., & Hannum, J. W. (2004). A meta-analysis of massage therapy research. *Psychological Bulletin*, 130(1), 3-18. doi:10.1037/0033-2909.130.1.3
44. Nimer, J., & Lundahl, B. (2007). Animal-assisted therapy: A meta-analysis. *Anthrozoos*, 20(3), 225-238. doi:10.2752/089279307X224773
45. Oxford Dictionary. (n.d.). Hippotherapy. Retrieved from <https://en.oxforddictionaries.com/definition/hippotherapy>
46. Oxford Dictionary. (n.d.). Wheelchair. Retrieved from <https://en.oxforddictionaries.com/definition/us/wheelchair>
47. Oxford Dictionary. (n.d.). Yoga. Retrieved from <https://en.oxforddictionaries.com/definition/yoga>

48. Rich, G. J. (2010). Massage therapy: Significance and relevance to professional practice. *Professional Psychology: Research and Practice*, 41(4), 325-332. Retrieved from <http://login.ezproxy1.lib.asu.edu/login?url=http://search.proquest.com.ezp.roxy1.lib.asu.edu/docview/763254719?accountid=448>
49. Select Physical Therapy. (2017). Functional Capacity Evaluation (FCE). Retrieved from <http://www.selectphysicaltherapy.com/services/work-health/functional-capacity-evaluation/>
50. Smith, M., Long, C., & Bushnik, T. (2016). Supporting factors for follow-up care in TBI patients' post-inpatient discharge. *Archives of Physical Medicine and Rehabilitation*, 97(10), e72. doi:10.1016/j.apmr.2016.08.219
51. South Carolina Department of Disabilities and Special Needs. (n.d.). Head injury: A family guide. Retrieved March 11, 2017, from <http://www.ddsn.sc.gov/providers/publications/Documents/HeadInjuryfamilyguide.pdf>
52. State of Oklahoma. (n.d.). Vocational Rehabilitation Specialist. Retrieved from <https://www.ok.gov/opm/jfd/k-specs/k21.htm>
53. Sullivan, J. M., MD, PhD. (n.d.). Brain Ischemia 101 - A brief introduction to the science of stroke and brain resuscitation. Retrieved April 09, 2017, from <http://sullydog.com/sullysites/qm/brainischemia101syllabus/syllabus/index.html>
54. Tatum, M., & Harris, B. (2017). What are prosthetic devices? Retrieved from <http://www.wisegeekhealth.com/what-are-prosthetic-devices.htm>
55. The American Speech-Language-Hearing Association. (n.d.). Swallowing disorders (Dysphagia) in adults. Retrieved May 04, 2017, from <http://www.asha.org/public/speech/swallowing/Swallowing-Disorders-in-Adults/>
56. The Commission on Rehabilitation Counselor Certification. (n.d.). Retrieved from <https://www.crc certification.com/>
57. The Neurotology Research Center. (n.d.). Neurotology Overview. Retrieved from <http://www.earsite.com/neurotology-overview>
58. Turner, J., & Frey, R. J. (2005). Music Therapy. In J. L. Longe (Ed.), *The Gale Encyclopedia of Alternative Medicine* (2nd ed., Vol. 3, pp. 1404-1407). Detroit: Gale. Retrieved from <http://go.galegroup.com.ezproxy1.lib.asu.edu/ps/i.do?p=GVRL&sw=w&u=asuniv&v=2.1&it=r&id=GALE%7CCX3435100548&sid=summon&asid=58af2e43532947fbc8969eeeeabfbad>
59. UC San Diego School of Medicine. (n.d.). What is fMRI? Retrieved May 04, 2017, from <http://fmri.ucsd.edu/Research/whatisfmri.html>
60. UHS Neurobehavioral Systems. (n.d.). Frequently asked questions: Neurobehavioral. Retrieved from <http://www.neurobehavioralsystems.net/faqs/>
61. University of Kansas Medical Center. (2015). What is a Respiratory Therapist? Retrieved from <http://www.kumc.edu/school-of-health-professions/respiratory-care-education/what-is-a-respiratory-therapist.html>
62. U.S Department of Education. (n.d.). IDEA 2004: Building the Legacy. Retrieved from <http://idea.ed.gov/part-c/search/new>
63. Washington State Department of Labor & Industries. (n.d.). Washington State Department of Labor & Industries. Retrieved March 04, 2017, from <http://lni.wa.gov/>
64. Washington State Department of Labor & Industries. (2013). Workers' Compensation Benefits. 1-24. Retrieved April 4, 2017, from <http://www.lni.wa.gov/IPUB/242-104-000.pdf>
65. Weill Cornell Medical College. (n.d.). Weill Cornell Medical College. Retrieved from <http://www.weillcornelleye.org/services/neuro.html>

Legal References:

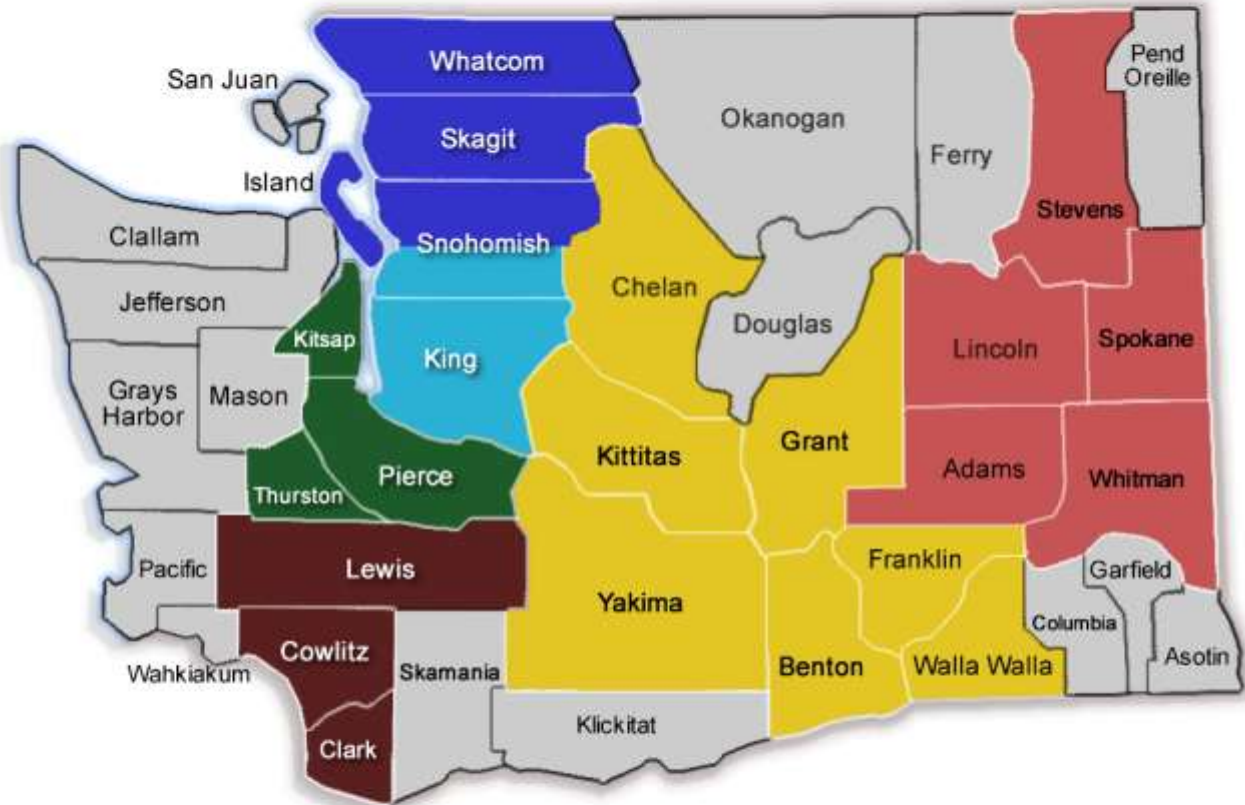
- R. Adler. [From Injury to Action: Navigating Your Personal Injury Claim](#). Second Edition. Word Association Press. ISBN:978-1-59571-771-9. (2012).
- R. Adler. [Understanding Traumatic Brain Injury: A Guide for Survivors and Families](#). (2006).

9 NOTES

BIAWA provides FREE Support Services throughout WA

- Academic Scholarships
- Clinical Case Management
- Conference Presentations
- In-Person Resource Management
- Informational Materials
- Inter-Agency Collaboration
- Trainings to Providers
- Social Engagement
- Support Groups
- WA Brain Injury Resource Line 877-982-4292

BIAWA In-Person Resource Management Service Regions



Regional Information and Color Key

- Eastern Region
- Central Region
- Northwest Region
- Puget Sound Region
- Western Region
- Southwest Region
- No In-Person Services - Please call the WA Brain Injury Resource Line at 877-982-4292



Brain Injury Alliance of Washington

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 Phone: 206-467-4800 Email: admin@biawa.org Web: www.biawa.org
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