On With Life is a specialty brain injury rehabilitation provider and we welcome you to our team of trained professionals. On With Life is one of only a handful of providers in the world outside of a hospital setting that is accredited in brain injury as a "Comprehensive, Integrated, Inpatient Rehabilitation Program." To prepare you to begin serving persons living with brain injury, we are enclosing handouts and articles which we have found to be valuable in learning about our unique business niche. Please review them before you start work at On With Life.

As you begin your employment, we will provide ongoing training opportunities starting in orientation and continuing through "Certified Brain Injury Specialist" classes, and regularly scheduled in-services throughout your first year. After that point, you may also qualify for additional specialty training.

We hope this helps you transition to our team. The information that we have enclosed is about:

- Brain injuries
- Behavioral Modifications
- Strategies for Effective Communication
- On With Life's Rehabilitation Team
- Communication and anger/agitation management

Thank you for joining our team!

Sincerely,

Dave Anders, SLP, CBIS
Director of Therapies

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Director of Rehabilitative Nursing

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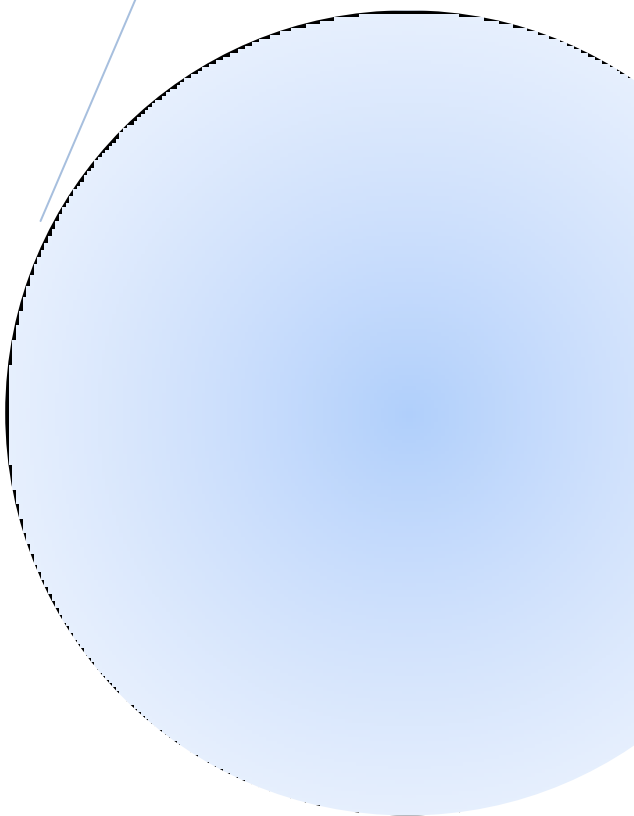
BRAIN INJURY 101



WHY DO WE NEED TO TALK ABOUT BRAIN INJURY?

- Traumatic Brain Injury is the leading cause of disability and death among children and young adults in the United States.
- Data from the Iowa Department of Public Health indicates that over 5000 Iowans per year are hospitalized with brain injury.
- Since the 1970s, medical treatment and transport has created an ever increasing group of "survivors."
- Every 15 seconds there is an incidence of brain injury.

WHAT IS BRAIN INJURY?

Iowa Administrative Code 441-83.81 (249A) makes the following definition:
"Brain injury" means clinically evident damage to the brain resulting directly or indirectly from trauma, infection, anoxia, vascular lesions or tumor of the brain, not primarily related to degenerative or aging processes, which temporarily or permanently impairs a person's physical, cognitive, or behavioral functions.

WHAT ARE THE COMMON MYTHS ABOUT BRAIN INJURY?

- Most people with a very severe brain injury will likely die early.
- Brain damage is permanent and irreversible. Life after brain injury is not worth living.
- People with brain injury are volatile, aggressive, and unpredictable.
- People with brain injury experience dramatic losses in intellectual functioning.
- Most brain injuries occur among people who were drinking and driving.
- The point of impact and force of a brain injury tells us a great deal about its consequences.
- Whatever recovery occurs will happen in the first 12 months.
- Recovery begins after coma, continues at an upward pace, and slows down and levels off.
- A "miracle" of recovery will occur only if the family finds the right doctor or program.
- Average IQ on psychological assessment indicates that the person is cognitively recovered.
- Persons with brain injury who demonstrate dissatisfaction with their lives, have unclear goals, have failing relationships, or exhibit disordered lifestyles will find relief in and need psychotherapy.

SOME BRAINY FACTS

The brain regulates and controls almost every bodily function.

Fifteen percent (15%) of the total blood flow in the body is to the brain.

The brain uses twenty percent (20%) of the body's oxygen.

There are approximately 100 billion neurons in the brain. The interconnections are infinite.

Two percent (2%) of the body's weight is the brain.

WHAT PROTECTS THE BRAIN?

The skull bones make up the **cranium**.

Meninges are the membranes of the brain.

Dura Mater is the outer membrane which is thick and strong.

Arachnoid is the middle membrane and appears as a cobweb.

Pia Mater is the inner membrane next to the brain.

Spaces between the meninges:

Epidural Space is between the dura mater and the skull.

Subdural Space is between the dura mater and arachnoid. It contains venous drainage.

Subarachnoid Space is the between the arachnoid and the pia mater. It contains the blood flow in to the brain.

Cerebral Spinal Fluid protects and cushions the brain.

WHAT ARE THE STRUCTURES OF THE BRAIN?

Cerebellum

- Handles coordination and integration of voluntary movements
- Maintains balance and equilibrium of the body
- Injuries to this area can cause problems with coordination, sequencing, shakiness, balance, and can cause someone to walk as though they were drunk

Brain Stem

Pons—Transmits impulses between spinal cord and higher cerebral cluster.
Medulla Oblongata—handles heart, respiratory, and other reflex actions such as cough and swallowing.

Cerebrum

- Divided into the right and left hemispheres
- Contralateral Control—the left side of the brain controls the right side of the body and vice versa.

TWO MAJOR TYPES OF BRAIN INJURY

Traumatic Brain Injury

Traumatic Brain Injury (TBI) is the result of a sudden, physical assault to the brain or anoxia.

Acquired Brain Injury

Acquired brain injury is the result of insidious infection, vascular lesions, or tumors of the brain not primarily related to degenerative or aging processes.

TRAUMATIC BRAIN INJURY

Traumatic Brain Injury differs from other types of brain injury in the following:

- It happens *suddenly* brings a significant change *immediately*.
- Damage is usual *diffuse and widespread*, not confined to one area of the brain. Thus, there are multiple effects.

TYPES OF TRAUMATIC BRAIN INJURY

Open Head Injury

The brain is penetrated from outside, i.e., a bullet wound.

Closed Head Injury

The brain is damaged within the head, without external penetration.

TYPES OF CLOSED HEAD INJURIES

Diffuse

Widespread damage results from the stretching and tearing of nerve fibers. When the brain mass twists and shifts, billions of thread-like nerve connections are pulled and stretched. Some actually snap and never function again. Some that are stretched may recover, but others degenerate and finally fall apart.

Concussive

This is a brief loss of consciousness following a blow to the head. The brain mass collides with the sharp ridges inside the skull. As it bounces off hard bone, it is torn and bruised. Contusions (bruises) are most likely to occur at the tops and base of the frontal and temporal lobes.

Coup/Contrecoup

If the head is struck in a particular way, the skull may bend in, bruising the brain, then driving the brain mass against the opposite wall of the skull so that brain tissue on the other side is bruised as well.

Hematomas

Heavy bleeding (hemorrhage) or slow leakage of blood from the blood vessel inside the brain. This causes an accumulation of blood called a hematoma.

Increased Intracranial Pressure

A build up of pressure within the skull which can compromise delicate brain tissues and lead to further brain injury.

Seizures

5-10% of all persons with a brain injury will have seizures soon after a brain injury or even years later.

Coma

A prolonged state of unconsciousness in which the patient is unresponsive and unaware of surroundings or has minimal response.

IDENTIFYING A POSSIBLE BRAIN INJURY—SOME CLUES

Verbal Issues

Poor speech
Monotone
Vulgarity/swearing
Talks too loud or too soft
Difficulty finding words
Broken speech

Personality Issues

Denies deficits
Irritable
Egotistical
Doesn't' listen
Asks a lot of questions
Argumentative
Manipulative
Appears unmotivated
Moody-laughs or cries easily
Depressed
Face shows little/no emotion
Appears angry

Social Issues

Doesn't recognize "personal space"
Inappropriate social interaction
(overly formal or overly friendly)
Interrupts conversations
Poor eye contact
Inappropriate conversation
(sex, drugs, alcohol abuse)
Fabricates stories/lies
Goes off on tangents

Behavioral Issues

Wanders off/runs away
Impulsive (acts without thinking)
Repeated invasion of personal space
Short fuse
Unable to control angry outbursts

Thinking Issues

Easily distracted
Seems to "space out"
Difficulty understanding
Difficulty with reality
Seems confused
Poor memory
Decreased safety awareness
Slow to answer questions
Difficulty organizing time

DENIAL VS. UNAWARENESS

Denial

A reluctance (either conscious or unconscious) to recognize deficits based upon psychological factors.

Unawareness

An inability to recognize deficits caused by neurological injury

TYPES OF AWARENESS DEFICITS

Intellectual Awareness

The cognitive capacity a person to understand that a particular skill is diminished from premorbid levels.

Some degreed needed for higher levels of awareness.

Emergent Awareness

The ability of a person to recognize a problem when it is actually occurring.

Anticipatory Awareness

The ability to anticipate that a problem is going to happen because of some deficit.

FACILITATION OF AWARENESS

Intellectual Awareness

Facilitated through repetitive education of both the person served and family

Emphasis on explaining deficit areas and explaining what function implications could be

Provide feedback when deficit area is affecting performance

Video taping is a common and effective method

Feedback needs to be immediate, concrete, and objective

Trusting relationship is important context for effective feedback

Emergent Awareness

Facilitate by providing feedback to recognize when problems are occurring

Use consistent terminology and be specific and concise

Give specific, observable signs of how the problem is affecting the person served

Cues may begin generally and, if needed, increase in specificity

Videotaping is helpful, especially of group activities

Anticipatory Awareness

Guide consumers into planning for deficits prior to starting task

Feedback is needed; experience of natural consequences of one's actions may be helpful

Experience in variety of situations must be experienced to learn from mistakes

BRAIN INJURY INTERVENTION STUDIES

Persons served often have other types of problems before the injury such as drug or alcohol abuse.

Rapid entry in to a rehabilitation facility increases the likelihood of an optimum recovery.

The most rapid recovery occurs in the first six months. This is largely due to the brain's ability to heal. However, significant recovery continues beyond one year. Long-term treatment and follow-up is important to develop compensatory skills and maximizing independence.

Physical problems decrease over time during rehabilitation, but psychological complications can increase.

Factors that predict outcomes for brain injured persons do not necessarily predict accurately for individuals.

Many persons who were living with non-family members returned to living with their families during the first year after injury.

Family reactions are critical to successful rehabilitation. Family education and intervention help significantly.

Frequency of Problems

Most Frequent Problems:	*Least Frequent Problems:*	*Other problems:*
Sexual issues	Child care	Communication
Role-change issues	Intrafamilial relationships	Leisure time
	Household task sharing	Withdrawal/socialization
		Dependency

Each problem was mentioned as a significant one by at least 20% of consumers. The number of problems mentioned was related to family attitudes toward the situation.

Psychological distress of consumers and families was found to be more limiting that the physical impairment, yet psychological service are often not available.

Major long-term rehabilitation needs:

Follow-up services
Availability of social activities
Effective models for coordination by service providers

Services needed by persons served are often unavailable in the community.

Education of both professionals and family members is critical.

INTERACTIONAL CONSIDERATIONS

Model consistent, calm, and controlled behavior

Attempt to modulate stress in the environment

Allow the person time for mourning or readjusting his/her self-concept.

Use cues relevant to the person's best cognitive or sensory modalities—i.e., beware of language use when working with persons with verbal deficits

Continually accentuate gains for positive reinforcement; ALWAYS seek out and emphasize assets, not just limitations

When involved in confrontational situations reframe and offer immediate options

If possible, attempt to teach skills ancillary to successful employment (e.g. conversational skills, punctuality) in more than one setting (i.e. counselor's office and then give the person a similar "homework" assignment to do in the community)

Expect the unexpected

Remember: Support + Skills = ***SUCCESS***

Think ecologically~ Person in the Environment

FACILITATING COMMUNICATION

Ask specific questions in concrete terms that describe areas of strength as well as deficits in functional terms.

Provide feedback on performance in small amounts at regular intervals. Invite family members to staffings whenever possible.

For the uninvolved families, mail brief written reports if they fail to respond to your phone calls.

Allow time for information to be processed and assimilated. Repeat explanations if necessary.

Elicit the consumer and family's input and agreement as to what evaluations measure.

Be specific when giving feedback regarding performance or behavior; describe appropriate behavior or expected performance.

DEVELOPING REALISTIC GOALS

Allow a "fair hearing" of unrealistic goals.

Take a "wait and see" attitude; do not dismiss what appears to be an unrealistic goal out of hand.

Focus person served and family initially on the intermediate goal of putting together a picture of strengths and weaknesses.

If necessary, allow yourself several interviews to develop a complete picture of the person served and their support system.

Try to involve the family in observation/data collection.

Use work trials; help your vendor to be specific in data collection.

Describe work goals as intermediate until performance for the desired goal can be achieved.

Expect backsliding. Refocus person served and family back to the intermediate goal, emphasizing progress made towards this goal.

At different times, you may spend more time talking to the family than the person served.

Start early to identify long-term supports needed for job retention. Elicit person served and family input.

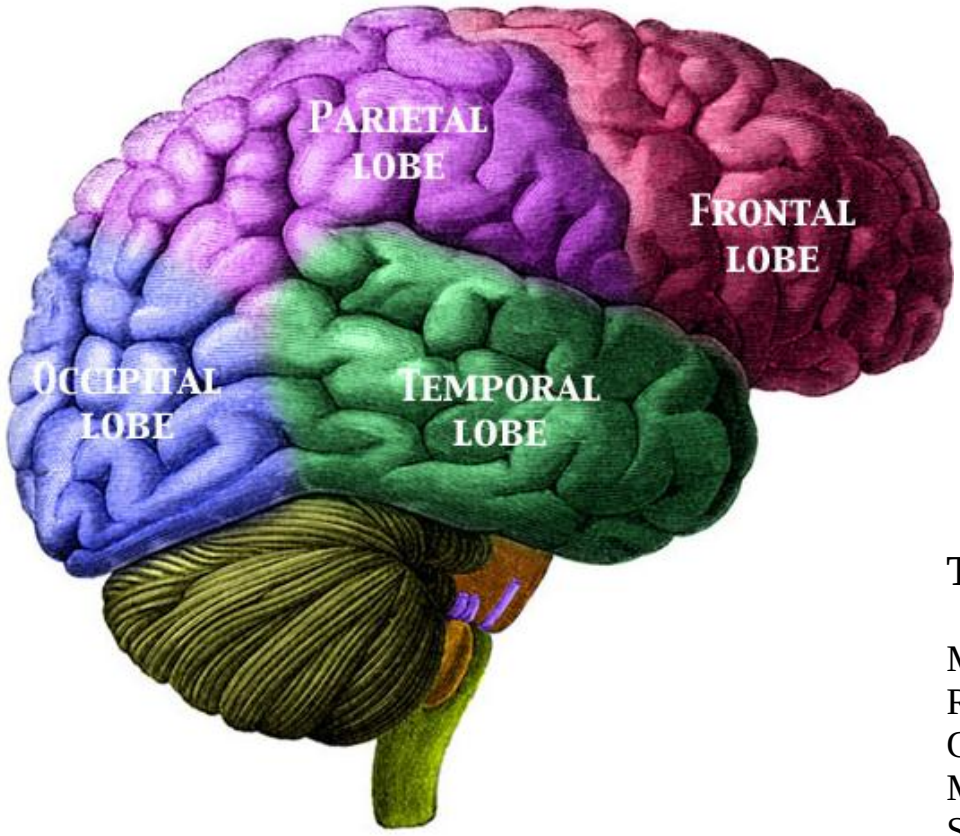
COGNITIVE SKILLS AND FUNCTIONS ASSOCIATED WITH THE 4 LOBES OF THE BRAIN

PARIETAL LOBE

Tactile Perception (touch)
Awareness of Spatial Relationships
Academic Skills (reading

FRONTAL

Controlling Attention
Motivation
Emotional Control
Guide/Control Social Behavior
Judgement
Problem Solving
Decision Making
Expressive Language
Motor Integration
Voluntary Movement



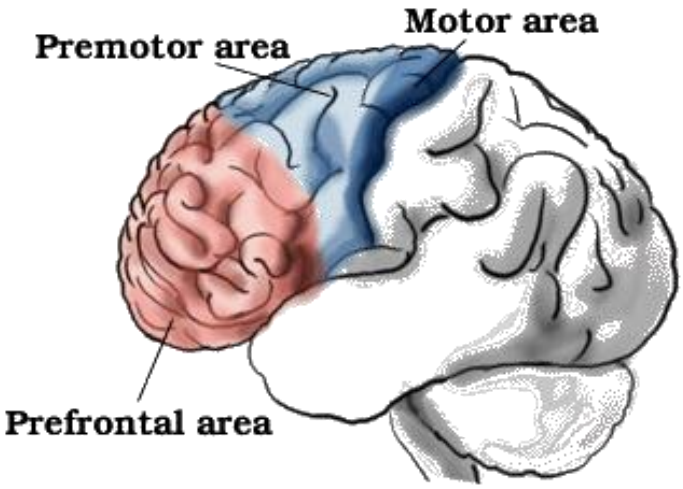
TEMPORAL

Memory
Receptive Language
Comprehension of Language
Musical Awareness
Sequencing Skills

OCCIPITAL

Visual Perception
Visual Input
Reading (perception and recognition of printed words)

FRONTAL LOBE



The **Frontal Lobe** is the executor of the brain. It links and integrates all components of behavior at the highest level.

Functions:

- How we know what we are doing within our environment (Consciousness), initiate activity in response to our environment
- Judgments we make about what occurs in our daily activities
- Controls our emotional response and expressive language
- Assigns meaning to the words we choose. Involves word associations
- Memory for habits and motor activities

Observed Problems:

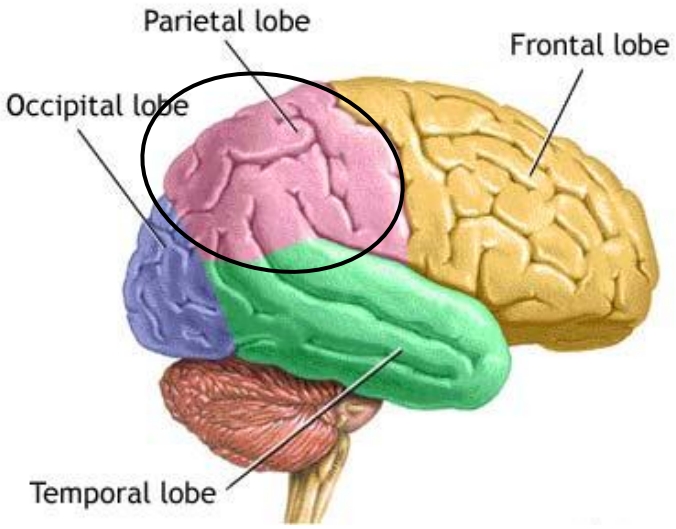
- Loss of simple movement of various body parts (Paralysis).
- Inability to plan a sequence of complex movements needed to complete multi-stepped tasks, such as making coffee (Sequencing)
- Loss of spontaneity in interacting with others
- Loss of flexibility in thinking
- Persistence of a single thought (Perseveration)
- Inability to focus on task (Attending)
- Mood changes (Emotionally Labile)
- Changes in social behavior
- Changes in personality
- Difficulty with problem solving
- Inability to express language (Broca's Aphasia)

PARIETAL LOBE

The **Parietal Lobe** is largely responsible for construction ability and language. It interprets sensory signals received from other areas of the brain such as vision, hearing, motor, and memory.

Functions:

- Location for visual attention, touch perception, goal directed voluntary movements, and manipulation of objects.
- Integration of different senses that allows for understanding a single concept.



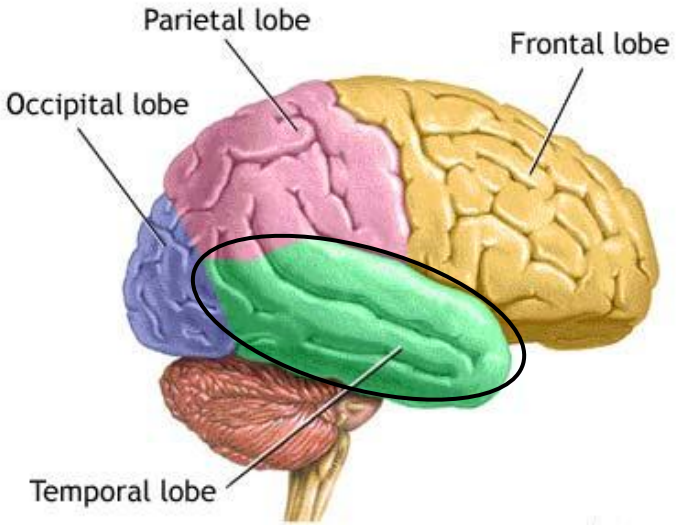
Observed Problems:

- Inability to attend to more than one object at a time, name an object (Anomia), locate the words for writing (Agraphia).
- Problems with reading (Alexia)
- Difficulty with drawing objects
- Difficulty in distinguishing left from right
- Difficulty with doing mathematics (Dyscalculia)
- Lack of awareness of certain body parts and/or surrounding space (Apraxia) that leads to difficulties in self-care.
- Inability to focus visual attention.
- Difficulties with eye and hand coordination.

TEMPORAL LOBE

The **Temporal Lobe** is associated with verbal processing, memory retrieval, and auditory processing**.**

Functions:



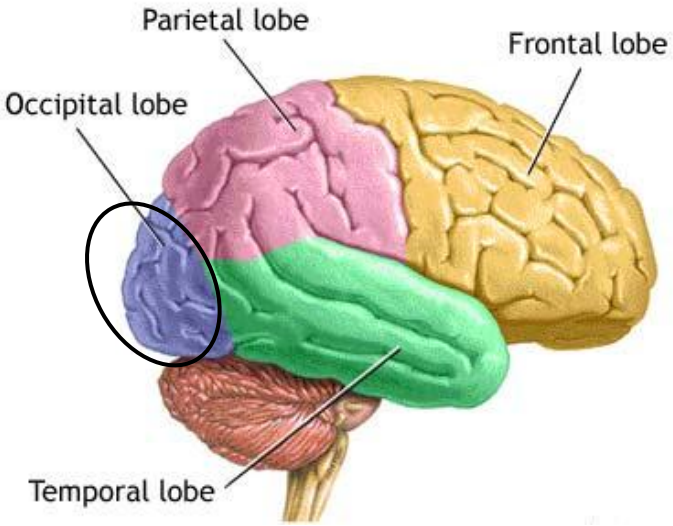
- Hearing ability
- Memory acquisition
- Some visual perceptions
- Categorization of objects

Observed Problems:

- Difficulty in recognizing faces (Prosopagnosia)
- Difficulty in understanding spoken words (Wernicke's Aphasia)
- Disturbance with selective attention to what we see and hear
- Difficulty with identification of, and verbalization about objects
- Short-term memory loss
- Interference with long-term memory
- Increased or decreased interest in sexual behavior
- Inability to categorize objects (Categorization)
- Right lobe damage can cause persistent talking
- Increased aggressive behavior

OCCIPITAL LOBE

The **Occipital Lobe** is the primary visual reception area and enables us to interpret visual images.



Functions:

- Vision

Observed Problems:

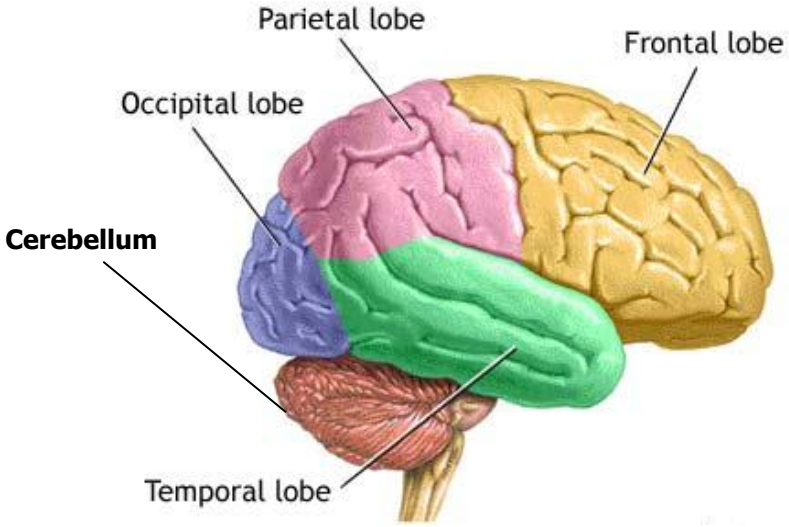
- Defects in vision (Visual Field Cuts)
- Difficulty with locating objects in environment
- Difficulty with identifying colors (Color Agnosia)
- Production of hallucinations
- Visual illusions - inaccurately seeing objects
- Word blindness - inability to recognize words
- Difficulty in recognizing drawn objects
- Inability to recognize the movement of an object (Movement Agnosia)
- Difficulties with reading and writing.

CEREBELLUM

The **Cerebellum** is the second largest part of the brain. It is located at the back of the brain beneath the occipital lobes.

Functions:

- Coordination of voluntary movement
- Balance and equilibrium
- Some memory for reflex motor acts.

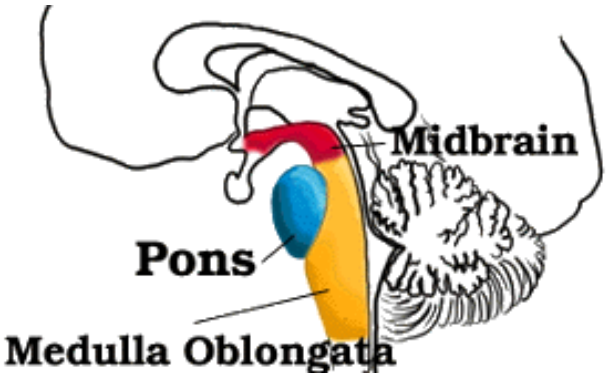


Observed Problems:

- Loss of ability to coordinate fine movements
- Loss of ability to walk.
- Inability to reach out and grab objects
- Tremors. Dizziness (Vertigo)
- Slurred Speech (Scanning Speech)
- Inability to make rapid movements.

BRAINSTEM

The **Brainstem** is the lower extension of the brain where it connects to the spinal cord. Neurological functions located in the brainstem include those necessary for survival (breathing, digestion, heart rate, blood pressure) and for arousal (being awake and alert). It contains three parts, the midbrain, pons, and the medulla oblongata.



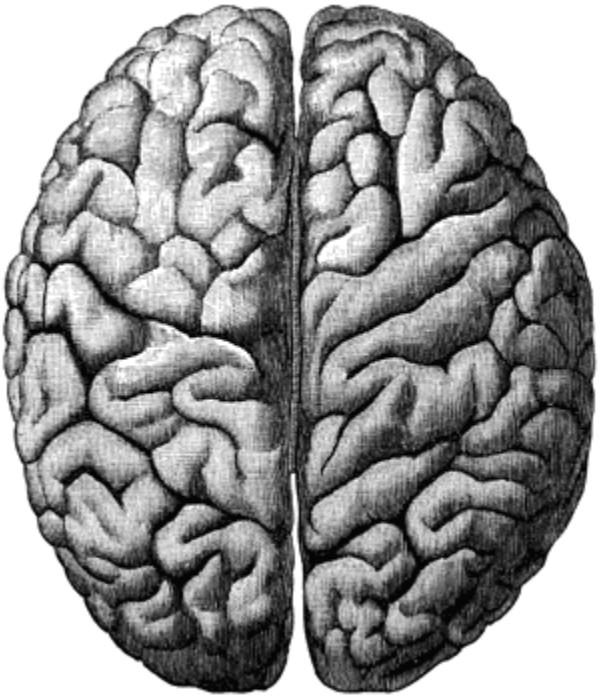
Functions:

- Breathing
- Heart Rate
- Swallowing
- Reflexes to seeing and hearing (Startle Response).
- Controls sweating, blood pressure, digestion, temperature (Autonomic Nervous System)
- Affects level of alertness
- Ability to sleep
- Sense of balance (Vestibular Function)

Observed Problems:

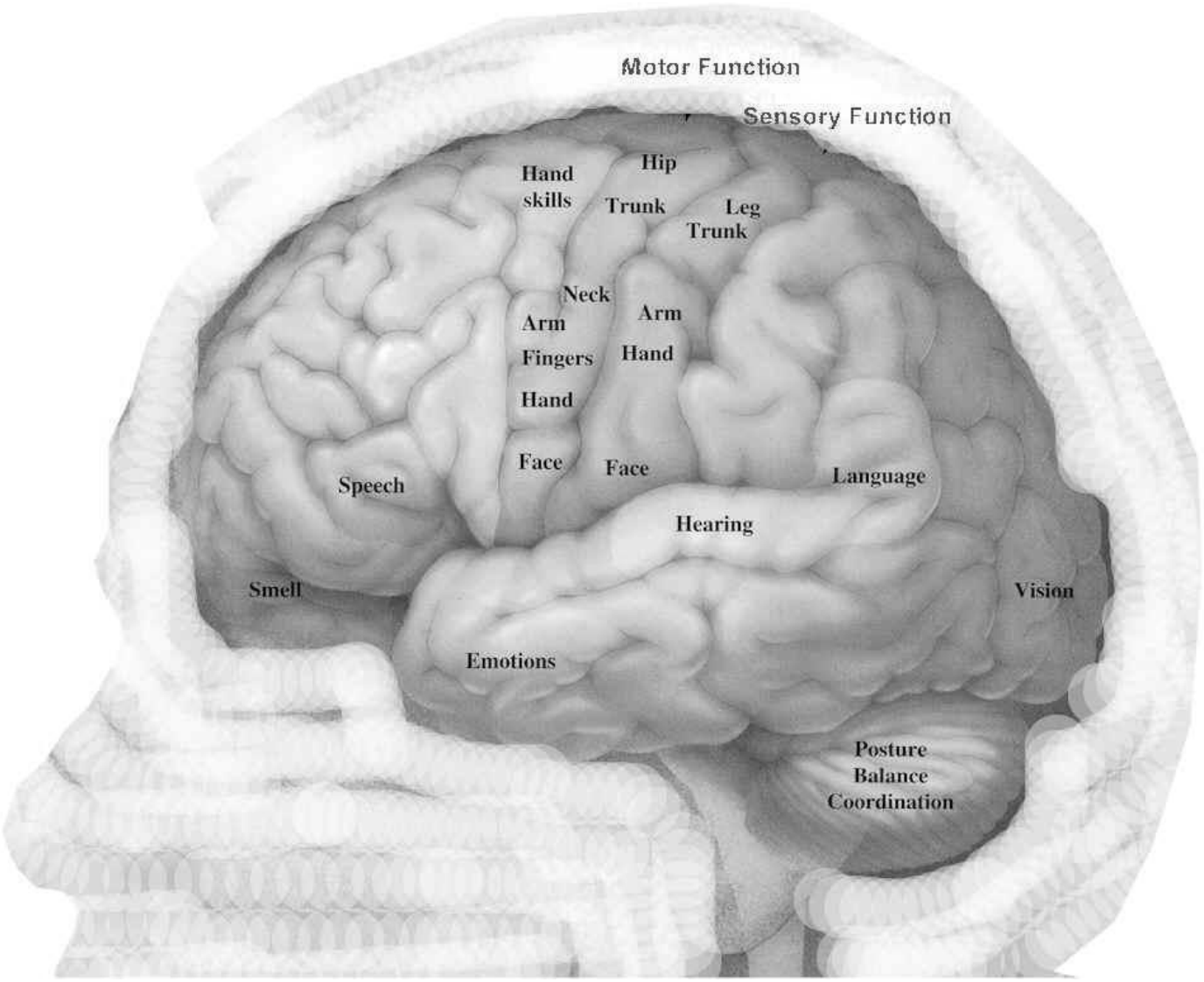
- Decreased vital capacity in breathing, important for speech
- Swallowing food and water (Dysphagia)
- Difficulty with organization/perception of the environment
- Problems with balance and movement
- Dizziness and nausea (Vertigo).
- Sleeping difficulties (Insomnia, sleep apnea)

CEREBRUM



The **Cerebrum** is composed of the left hemisphere and the right hemisphere. Each hemisphere has four lobes consisting of the frontal, temporal, occipital, and parietal. The left hemisphere interprets logically and the right hemisphere processes holistically.

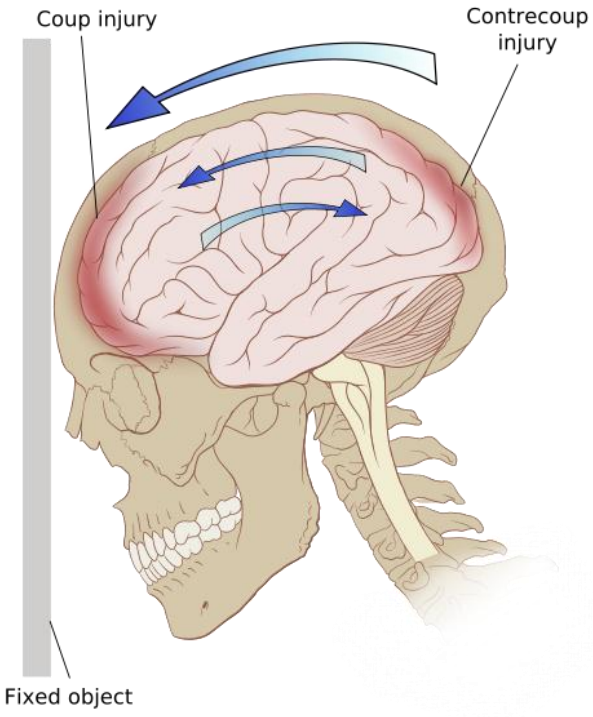
FUNCTIONS AREA OF THE BRAIN



CONCUSSION

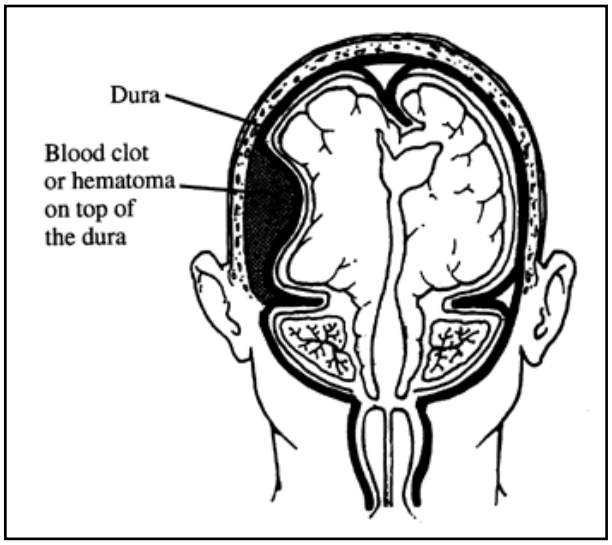
Concussion is a brief loss of consciousness following a blow to the head. The brain mass collides with the sharp ridges inside the skull, bounces off the hard bone, and is torn and bruised. Concussions are most likely to occur at the tops and base of the frontal and temporal lobes.

COUP – CONTRECOUP

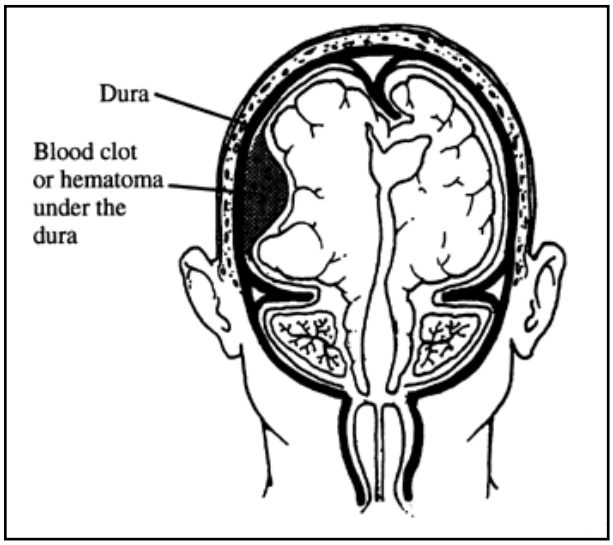


Coup – Contrecoup occurs when the head is struck; the skull may then bend in, bruising the brain. The force of the blow then drives the brain mass against the opposite wall from where the initial blow occurred, bruising that area also.

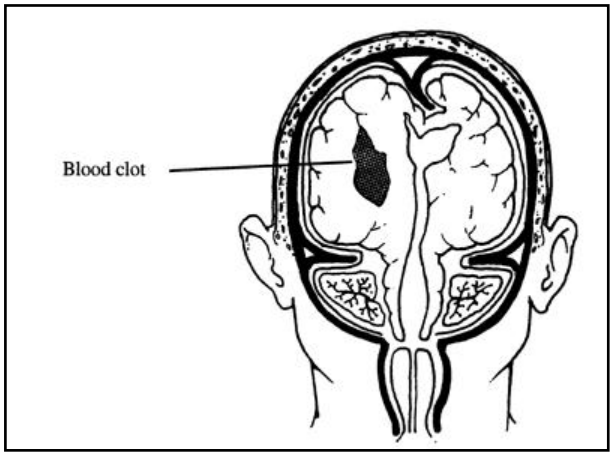
EPIDURAL, SUBDURAL, AND INTRACEREBRAL HEMATOMAS



An **Epidural Hematoma** a blood clot that forms between the skull and the top lining of the brain (dura). This blood clot can cause fast changes in the pressure inside the brain. Emergency surgery may be needed. The size of the clot will determine if surgery is needed.



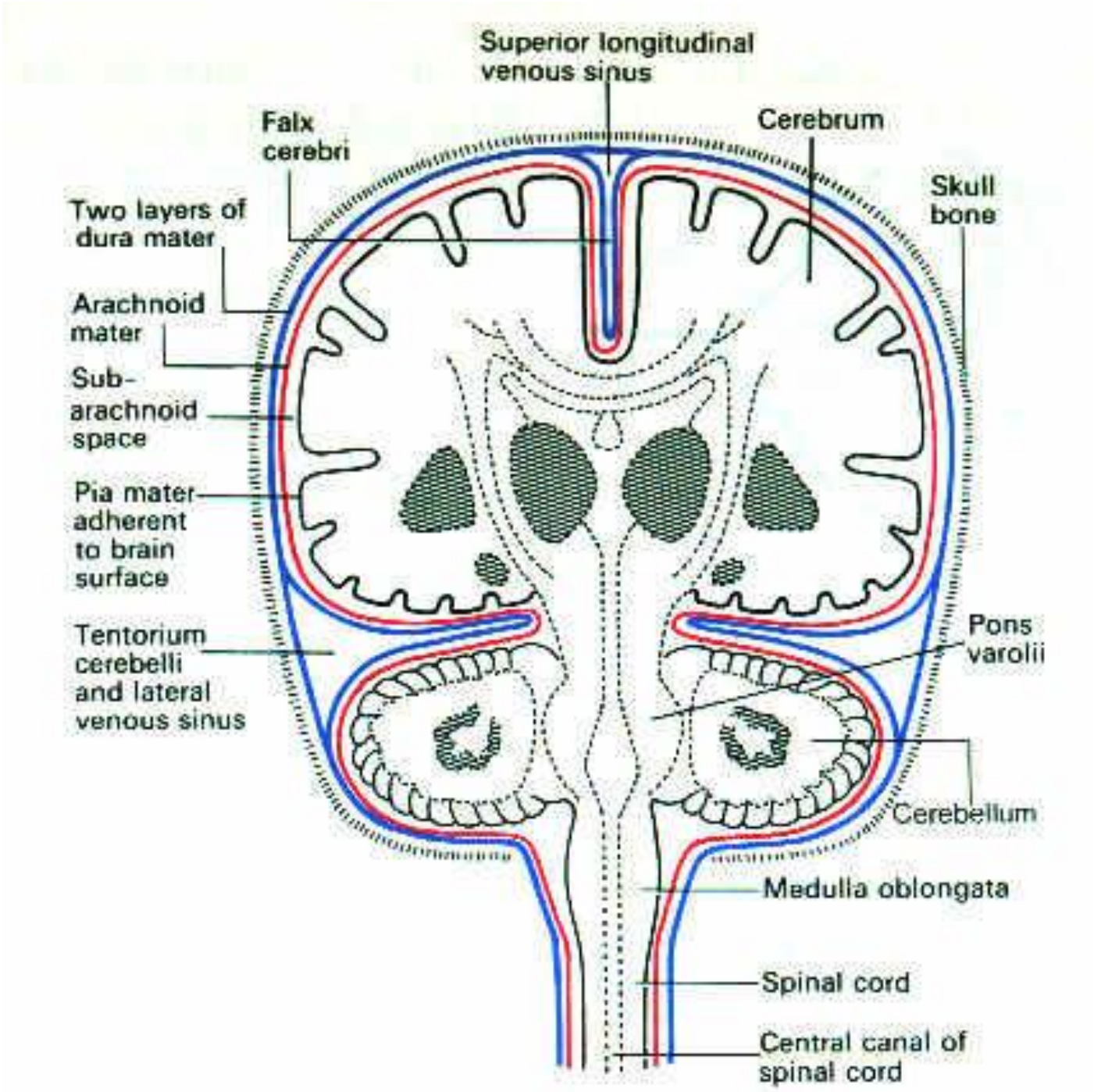
A **Subdural Hematoma** is a blood clot that forms between the dura and the brain tissue. If this bleeding occurs quickly it is called an acute subdural hematoma. If it occurs slowly over several weeks, it is called a chronic subdural hematoma. The clot may cause increased pressure and may need to be removed surgically.



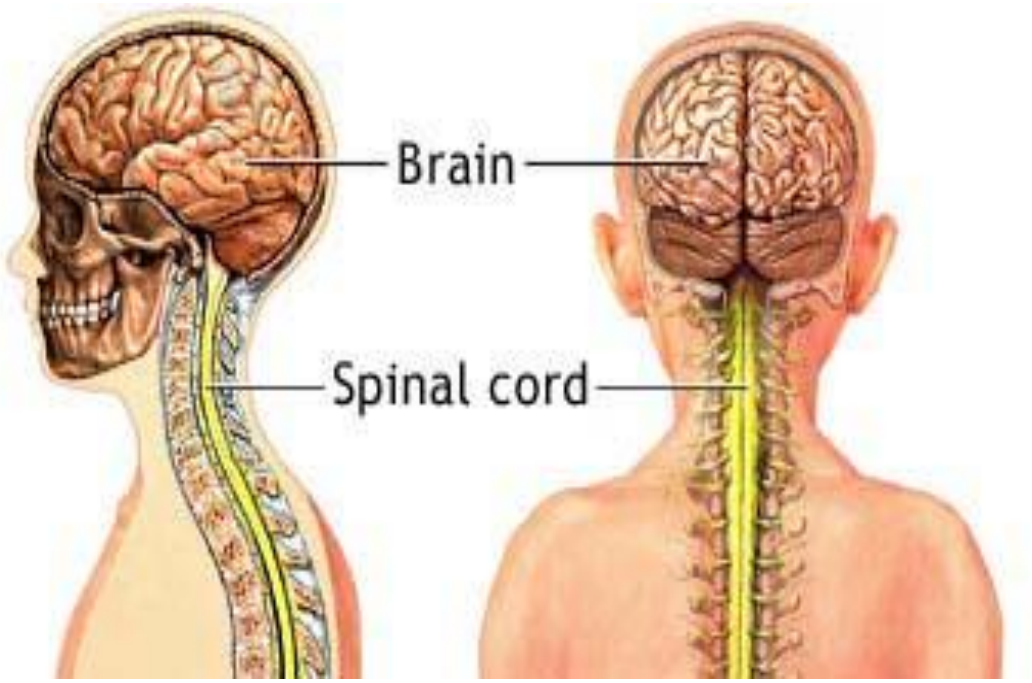
An **Intracerebral Hemorrhage** is blood clot deep in the middle of the brain that is hard to remove. Pressure from this clot may cause damage to the brain. Surgery may be needed to relieve the pressure.

http://www.uihealthcare.com/topics/medicaldepartments/neurosurgery/braininjury/index.html

CORONAL VIEW OF THE HEAD

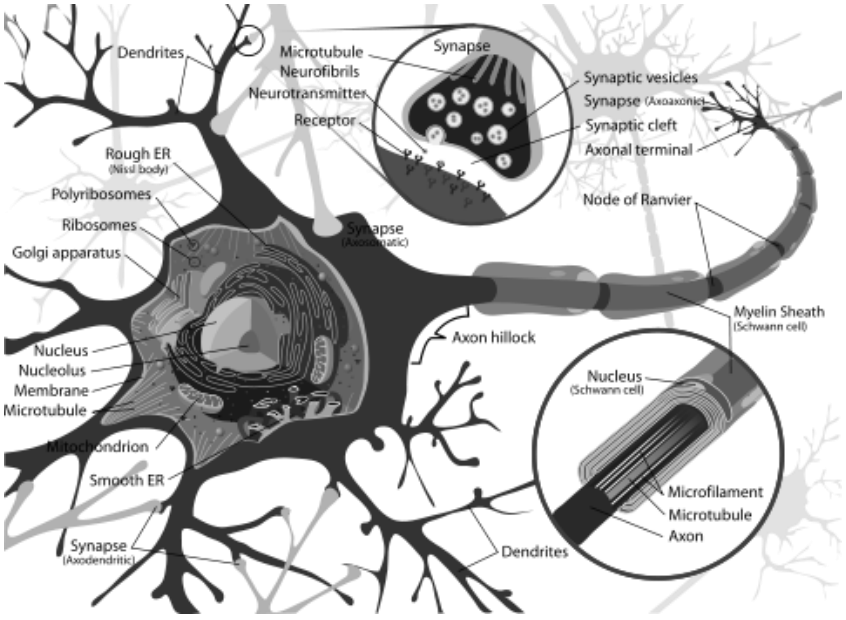


THE BRAIN AND SPINAL CORD



The **Brain** is located at the upper end of the **Spinal Cord.** The brain is a soft, wrinkled mass of nerve tissue floating in the skull. It is encased in layers of protection and cerebral spinal fluid.

NEURAL STRUCTURE



Behaviorial Modifications

On With Life

Tips for Crisis Management with Brain Injury

Understanding Anger

Anger management problems can stem from the brain injury itself, as well as from problems with reduced self-control, impulsivity, and lowered frustration tolerance. It is important to be able to:

- Identify potential triggers of anger
- Identify early warning signals
- Recognize your feelings
- Have strategies for managing persons who display anger

Potential Triggers of Anger Following a TBI:

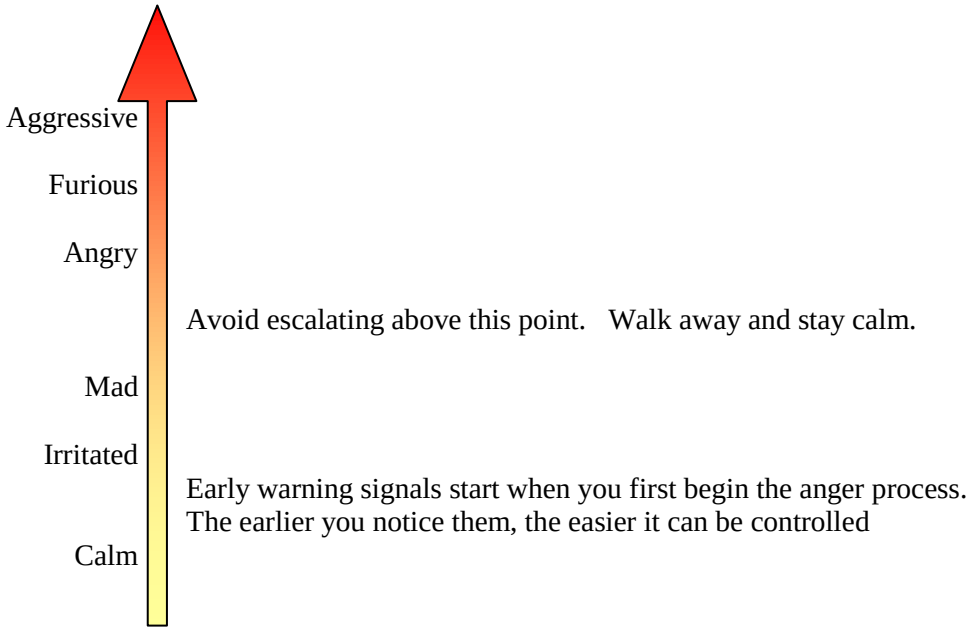
- Pain/headaches
- Changed self image
- Feeling angry about accident or injury
- Worries about future/finances
- Coping with change
- Lack of understanding from others (medical professionals, family/support system etc.)
- Personality clashes/changes to relationships and social activities

Early Warning Signals:

Physical	**Emotional**	**Cognitive**
Muscle Tension	Irritated	Changes to thoughts include:
Temperature Change	Frustrated	Racing
Tremor/shaking	Moody	Jumbled
Sweating	Unsettled	Irrational
Heart pounding	Feeling upset	Jumping to conclusions
Clenched fists		

Scale of Anger

Anger escalates in intensity if it is not monitored or managed. A calm person can become angry and then aggressive if triggered.



Managing Escalating Situations

1. **Maintain Self-Control**
    - Control breathing, voice, and posture
    - Voice should be low volume and low tone

2. **Maintain a Safe Distance**
    - 3- 4 ft from the person served on their non-dominant side.

3. **Maintain a Non-Confrontational Body Stance**
    - Keep hands open and in full view
    - Maintain or gain access to the room's door
    - Stand slightly at an angle to the person
    - Avoid staring or standing with your hands on your hips
    - Avoid making fast movements

4. **Analyze the Situation**
    - Is there anything reinforcing the behavior?
    - Is there anything frightening the person?
    - Are they being over or under stimulated?

5. **Decide on an Intervention**
    - Invention can include negotiation, leaving, no action, surprise, diversion, humor, isolating client, removal of other client/people, requesting assistance and evasive self-defense (only to be used if under attack/ as a last resort)

6. **Review Intervention and Decide on Next Step**
    - Monitor situation and interventions to determine what was successful and what was not.

*Call a Code Green if necessary.
*Never hesitate to ask nearby employees for assistance.
*If problematic behaviors continue, they should be brought to the attention of the neuropsychologists and transdisciplinary team for further discussion and planning.
*Team debriefings will be held to report effectiveness of interventions, behaviors, and consequences. This information will be used to increase chances of successful de-escalation techniques during future behavioral episodes.

Self-Management after a Crisis

Tension can be released by:

- Relaxation/breathing techniques
- Vigorous activity, or aerobic exercise (physical release)
- Talking, laughter, or crying (emotional release)

Things to Avoid:

- Self-administering drugs/overuse of prescribed medication
- Using alcohol, caffeine, or cigarettes
- Using food as a means to cope
- Releasing tension by aggression and anger

Things to Remember

- After any crisis, it is normal for a person to experience an emotional or physical change for up to six weeks.
- Don't label yourself as crazy
- Avoid making life-altering decisions within a few weeks of the crisis
- Seek professional help if symptoms persist longer than six weeks

Tips to Avoid Behavior Escalation

Behavior intervention programs are designed to help persons served manage their own behavior and assist the family-support system and caregivers in managing the risks associated with those behaviors. These plans are never used for discipline, shame, or convenience. Every member of the rehabilitation team is responsible for helping persons with brain injury manage their own behaviors and for managing the risks associated with those behaviors.

Rehabilitation is not about controlling or managing individuals; however, it is about helping them regain control of their own lives and building feelings of self-worth. At times, helping individuals learn how to manage their own emotions and behavior is very challenging. You are expected to be aware of this challenge throughout the rehabilitation process and not internalize or personalize the negative emotions and/or behaviors that may be directed toward you. It is important to remember that no matter what emotional or behavioral challenges you face, you are charged with delivering professional, caring, and compassionate services.

It is important to make sure that all persons served, including those with behavior intervention programs, are always treated with respect and dignity. Persons served have the right to feel safe and know that you are always there to help and support them through both the high and low periods of rehabilitation.

Positive reinforcement
-This should be practice first and foremost and should occur throughout the day.

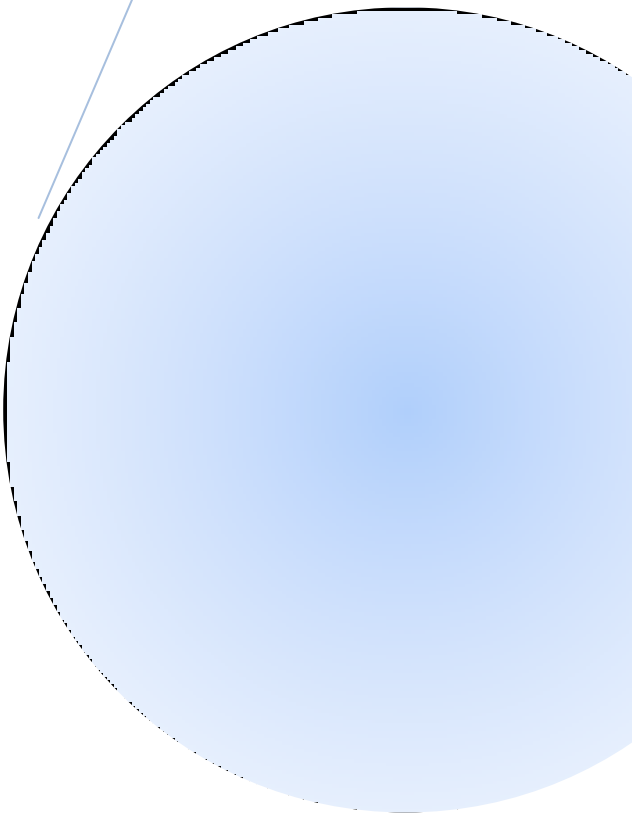
Redirection
-This involves redirecting a person to engage in a more desirable behavior. For example, if a person served is focused on leaving the facility, the staff should suggest a different activity such as eating lunch or making a phone call to family.

Environmental Modification
-Decrease stimulation such as light, noise, number of people in the room, temperature
-Avoid over-crowding the individual by surrounding him/her with many staff members

Social Interaction Modification
-Explain step-by-step what you are doing and why you are doing it
-Give choices when possible
-Don't rush—be gentle and move slowly
-Be flexible—if it is "not a good time", come back later.

De-escalation Techniques
-Provide and be aware of basic needs (food, water, toileting, rest breaks)
-Locate sources of discomfort and recognize physical activity may increase it and cause a person to reflexively strike out.
-Momentarily refrain from therapeutic touch, as it may be the source of agitation
-Provide familiar and comforting stimuli such as family pictures, familiar music, or a favorite blanket.
-Ask the person served specific questions; "What is bothering you?", "What can I do to help calm you down?"
-Encourage relaxation techniques such as breathing
-Allow physical movement as much as possible.
-Allow the person served time to think and "vent"
-Avoid engaging in power struggles or using negative comments such as, "You must stop doing this."

On With Life's Rehabilitative Treatment for Brain Injury



On With Life's Rehabilitative Treatment for Brain Injury

The families of both traumatic brain injury and acquired brain injury (stroke, tumors, infections, etc) victims often have many questions when their loved one is transferred to a rehabilitation center.

What happens in rehabilitation?
Similar to an acute care hospital, the persons served at On With Life will be cared for by a team of professionals who specialize in the treatment of persons with brain injury.

Initial goals are to:

1. Stabilize the medical and rehabilitation issues related to brain injury and the other injuries.
2. Prevent secondary complications. Complications could include pressure sores, pneumonia, and contractures.
3. Restore lost functional abilities. Functional changes could include limited ability to move, use the bathroom, talk, eat, and think.
4. Provide adaptive devices or strategies to enhance functional independence.
5. Analyze what changes might be required when the person goes home and/or if the individual will be able to safely transition home with the family and the person served.

The person served will participate in therapy each day. Initially, the person served may require staff assistance for even the simplest activities, such as brushing teeth, getting out of bed, and eating. The person served may require staff assistance for safety because there is a risk of falling, eloping (trying to get out of the facility to go home), or getting hurt. The person served may be confused and forgetful.

The Rehabilitation Team

At On With Life, we have two medical directors, an Internal Medicine physician who oversees medical care, and a Physiatrist who is the team leader for the therapy program. The General Medical Director is responsible for managing the complex medical needs of the person as well as addressing prevention. Physiatrists treat a wide range of problems including the changes after brain injury. The physiatrist will assess and prescribe the treatment and direct the team.

The neuropsychologist is a key member of our rehabilitation team. The neuropsychologist will assess the patient's changes in thinking and behavior which could include:

- Poor memory
- Poor attention and concentration
- Poor decision-making
- Impulsivity
- Disorientation
- Language and communication abilities
- Inability to speak
- Inability to understand when spoken to

Many persons served are unaware of the changes in the brain and how those changes affect their daily lives. A person served may not understand what has happened and may be distraught by being away from home. Through education and counseling, our neuropsychologist can help the person served and the person's served family cope with the changes impacting their lives.

Rehabilitation Nursing

Our Rehabilitation Nurses assist the person served with brain injury in attaining optimal health, the highest quality of life, and adapting to an altered lifestyle. The Rehabilitation Nurse provides care for the person served, the family/support system, and the nursing unit with focus on:

- Education
- Health maintenance
- Nutrition
- Potential for aspiration
- Impaired skin integrity
- Bowel and bladder incontinence
- Impaired physical mobility
- Chronic and acute pain
- Impaired or limited ability to take care of self
- Sleep pattern disturbance
- Impaired cognition
- Impaired verbal communication and comprehension
- Sexual dysfunction
- Other medical needs

Specially trained Certified Nursing Assistants also provide direct care to our persons served under the supervision of the Rehabilitation Nurses.

Therapy

Our **Physical Therapists** work with persons served to increase their functional mobility, whether that is in bed, in their wheelchair, or by walking, to help them achieve as much independence as possible. Physical therapists are experts in the examination and treatment of musculoskeletal and neuromuscular problems that affect the ability to move and function in daily life.

Physical Therapists will address skills related to:

- Positioning
- Posture
- Balance
- Strength
- Quality of movement
- Spontaneous movement
- Coordination of movement
- Increased sensation of sensory-motor activities
- Pain management
- Functional mobility
- Need for wheelchair, brace, or cane

Our **Occupational Therapists** work with persons served to assess functions and potential complications related to the movement of upper extremities, daily living skills, cognition, vision, and perception.

The Occupational Therapist will address skills related to:

- Splinting
- Positioning
- Visual skills
- Grooming/hygiene
- Bathing
- Dressing
- Cooking
- Grocery shopping
- Banking
- Budgeting
- Readiness for returning to work by assessing prevocational and vocational skills
- Need for assistive devices

Our **Speech and Language Pathologists** work with persons served to assess their communication, cognition (thinking skills), and swallowing function. The goal is to improve these functional skills to the level that allows for the highest level of independence that is possible. The Speech and Language Pathologists will address skills related to:

- Communication
  - Auditory comprehension
  - Expressive language
  - Reading and writing
  - Pragmatics
  - Speech production
- Cognition
  - Attention
  - Memory
  - Executive functioning
- Swallowing

Our **Music Therapist** works with persons served to assist in increasing their overall functions and assists with:

- Physical Development
  - Movement
  - Strength
  - Coordination
- Social Development
  - Expression
  - Vocabulary
- Melodic Voice Intonation
- Cognitive Development
  - Memory
  - Sequencing
  - Reading
  - Organization
- Emotional Development
  - Expression of emotion
  - Self Image
  - Relaxation

Our **Recreational Therapists** develop activities to target the individual's long-term goals and maximize his/her ability to restore lifestyle interests.

- Physical Development
  - Movement
  - Strength
  - Coordination
- Emotional Development
  - Expression of emotion
  - Self Image
  - Relaxation
- Social Development
  - Expression
  - Social interactions
- Cognitive Development
  - Memory
  - Sequencing
  - Reading
  - Organization
- Leisure Skills Development

Our **Dietician** assesses the nutritional needs of each person served to maintain:

- Safe swallowing
- Maximize nutritional status
- Nutritional/medical needs

Our **Social Workers** assess the psychological, social, financial, and support needs of each person served and:

- Provide counseling/support
- Explore resource options
- Develop a support network
- Coordinates discharge planning/options

The **Case Manager** monitors and coordinates the rehabilitation plan of care, which includes addressing critical issues, overseeing the discharge plan, and communicating with the payer.

The **Chaplain** arranges for clergy visits, provides spiritual support, and provides regularly scheduled services. As part of On With Life's holistic approach to rehabilitation.

Strategies for Effective Communication Across the Disorder Spectrum

Strategies for Effective Communication Across the Disorder Spectrum

Minimally Responsive

Rancho Los Amigos Levels I to III

Cognitive Level I—No Response

A person at this level will not respond to auditory, visual, tactile, proprioceptive, vestibular, or painful stimuli and requires total assistance.

Cognitive Level II—Generalized Response

A person at this level will:

- begin to respond to auditory, visual, tactile, proprioceptive, vestibular, or painful stimuli;
- respond slowly, inconsistently, or after a delay;
- responds in the same way to what is seen, heard, or felt. Responses may include chewing, sweating, breathing faster, moaning, moving, and/or increasing blood pressure.

Cognitive Level III—Localized Response

A person at this level will:

- be awake on and off during the day;
- make more movements than before;
- react more specifically to what is seen, heard, or felt. For example, the person may turn toward a sound, withdraw from pain, and attempt to track a person move around the room;
- react slowly and inconsistently
- begin to recognize and respond to family and friends
- begin to respond inconsistently to simple commands such as “look at me” or “squeeze my hand and simple questions with “yes” and “no” head nods.

Functional Communication Strategies for Rancho Los Amigos Levels I to III

- Label or tag items explaining importance to the person
- Label pictures of family and friends
- Give verbal preparation and explanation before you present stimuli or an activity. For example, “I’m going to move your leg.”
- Speak as you would have pre-injury, do not talk down to the person (volume, tone, inflection)
- Talk about topics that are familiar to the person
- Ask the person to do things within their level of capability
- Quiet time is important too

Rancho Los Amigos Levels IV to V

Cognitive Level IV—Confused and Agitated

A person at this level may:

- have a heightened state of activity;
- be restrained to avoid injury and purposefully try to remove restraints;
- have tendency to wander randomly;
- have very brief sustained attention;
- be absent short term memory;
- have a vague intention of going home;
- be absent self-monitoring;
- show signs of agitation in the absence of external structure;
- be disoriented;
- be unable to learn new information;

Cognitive Level V—Confused and Inappropriate

A person at this level may:

- be confused and have difficulty making sense of things outside of self;
- be aggressive of flight behavior;
- have severe mood swings;
- be unable to cooperate with treatment;
- verbalize inappropriate to activity;
- confabulate;
- and converse briefly on a social automatic level.

Functional Communication Strategies for Rancho Los Amigos Levels IV to V

- Eliminate negative phrasing (don’t, can’t, won’t, shouldn’t, no)
- As the person’s volume increases, yours should decrease
- Use validation techniques, go with the flow
- Suggest alternatives for behavior
- Avoid arguing

Aphasia

A person with aphasia can range from profound impairment (global aphasia) to mild impairment (anomic aphasia). They may have:

- difficulty comprehending what has been said
- difficulty expressing self using words
- difficulty reading and writing;

In many cases, a person's nonverbal and paraverbal skills remain relatively intact.

Functional Communication Strategies for Aphasia

Comprehension

- Supplement your communication with as many additional forms of communication as possible (i.e. write, draw, gesture).
- Use yes/no questions and choices (field of 2) rather than "wh" questions.
- Use short phrases to alert the person to change.
- Reduce task demands.
- Communicate face to face.
- Use emphasis to draw attention to salient words.
- Slow your speaking rate.
- Use pauses to reduce "noise".
- Reduce the complexity of your syntax.
- Reduce your utterance length.
- Use direct words.
- Use redundancy to emphasize key words.

Expression

- Rely on nonverbal/paraverbal expression.
- Use yes/no questions and choices (field of 2) rather than "wh" questions.
- Access other forms of communications (i.e., drawing, gestures, take me to it).
- Use structured questions to narrow the field.
- Allow added time for questions.

Right Hemisphere Dysfunction

Right hemisphere dysfunction impairments are:

- sustaining and dividing attention;
- difficulty remember information (particularly in the presence of distraction);
- deficits in ability to organize information;
- deficits in reasoning and problem solving;
- difficulty with visual/spatial skills;
- and impaired pragmatics (social language).

Functional Communication Strategies for Right Hemisphere Dysfunction

- Signal before talking to help the person served pay attention to you. This may include saying their name and cueing them to look at you before you convey your message.

- Shorten lengthy messages

- Be direct when asking questions / requesting the person served to do something
    - For example: instead of saying "it's getting late and you'll be tired if you don't go to bed," you likely will need to say "it's 9:00. Let's get you into bed."

- Remove distractions that get in the way of attention to conversation. These things might include:
    - Turning off the TV or radio
    - Shutting the blinds
    - Closing the door

- Make sure the person served is comfortable. Internal distractions like pain and restroom needs will likely decrease the PS' ability to attend to your message.

- Cue the person served to make eye contact with you during the interaction. This will help them pick up on your nonverbal cues.

- Use "wh" questions rather than yes/no questions. "wh" questions will yield improved quality of communication.

- Signals may need to be used in order to cue the person served that they are talking over the top of others, or that it is their turn to talk.

Stop Treating the Brain Injured

Harvey E. Jacobs, PhD

Stop Treating the Brain Injured

Harvey E. Jacobs, Ph.D.[1]

There is no doubt that brain injury is a devastating and life-changing event for too many people each year. It is an equally significant event for families, friends and other's involved in the individual's circle of life. Rapid access to emergency care, astute diagnosis, and timely treatment can make the difference between hope or despair, and future or frustration.

Research has documented that well-integrated treatment teams can decrease life long impairments and disability, making it possible to reduce the consequences of brain injury. Unfortunately, these services end too quickly for far too many people who are only beginning to achieve their promise when funding, programming and other critical elements to successful recovery cease.

It is equally devastating when services are improperly delivered, or when the person gets lost in their brain injury. As noted by the noted neuropsychologist Muriel Lezak nearly 30 years ago, severe brain injury begins as a medical challenge, but ultimately becomes a social catastrophe.

Today, more people than ever survive the initial consequences of brain injury due to tremendous technological advances in emergency care and treatment. At this point a person's life or death depends on the precision and integrity of advanced medical technology and coordinated systems of clinical care. Intervention focuses on the specific challenges to a person's survival. Just as important is the social contract within our society to take care of one another in such circumstances of extreme need without exploitation. For at this point a person is truly a victim with little or no involvement in the process.

Victims become patients as early medical intervention services transition to rehabilitation services. We long ago realized that approaches so important during the early stages to prevent people from dying are not adequate or appropriate for this equally important part of the recovery process; hence, the need for this different approach.

In rehabilitation we continue treating the damaged parts of people and this diagnostic approach can be useful when we are first trying to help a person regain such basic abilities as walking, talking, and self-feeding.

But rehabilitation has its own limitations and other approaches are needed to help individuals regain their perspective and identity. Location is a significant issue. Most rehabilitation services take place in designated medical or treatment facilities. Although helpful at the beginning when intensive treatment is needed, these locations can later become a hindrance as the challenges change from basic restoration to the use of compensatory strategies in one's home and community. Fortunately, some rehabilitation programs now reach out to community settings, but their grasp can be limited.

Too often treatment approaches continue to view the individual for their deficits instead of their abilities. This identity, unfortunately, becomes attached to the person and those who are with them. It is an insidious process, but over time one cannot help but feel devalued and viewed for what they cannot do instead of for their hopes, dreams and abilities. This in turn leads to increased dependency, depression and despair, which promotes isolation, behavioral disruption and further failure.

This may all sound like semantics, but it isn't. Working with the whole individual and not just treating a person's damaged components has a real effect on outcomes. People who have the ability to place their history of brain injury within the perspective of their overall lives have greater chances for personal

development and success. They learn quickly that although a brain injury is part of their lives, it does not have to define their life. They can still be husbands, wives, brothers, sisters, workers, students, like sports, enjoy music, and be involved in all other areas that have always been important to them.

While many people still may need help and services, the difference is that these supports become incorporated into the cadence of their daily lives, rather than a separate component. In addition, the work and effort produce real payoffs that each person can see as they gain greater control and direction in their lives. It's no longer about incremental gains in therapy, but real life opportunities that develop and contribute to personal success and quality of life. Both cognitive and behavioral treatment approaches are most effective when they are used to help people address personally identified challenges in real world situations as compared to isolated treatment settings.

When we stop treating the brain injured we enter into partnerships with people to help them expand their horizons and celebrate their success. We replace the concepts of the "brain injured patient" and "life after brain injury" with the understanding that a brain injury is only one part of a person's life, but should never define the total person or how we relate to one another. Tying the past with the future is critical for a successful perspective of the full person.

For example, years ago I received a referral about a "52 year old female with a diagnosis of status post surgical resection for a brain tumor with major frontal lobe involvement who was easily agitated and socially inflexible." After a few dry clinical sessions, we met for lunch with several other "patients" one day, ostensibly to evaluate her social skill deficits so that she could learn to be "appropriate." A picture of an airplane hung on the restaurant and she began to talk about her earlier work as a Pan Am flight attendant. For the first time her eyes sparkled and her voice radiated as she talked about her international travels. People paid little attention until she mentioned a London to New York flight in early February 1964 that contained four unknown musicians on their way for an appearance on the Ed Sullivan show. Nobody at the table ever disregarded her again because of her brain injury. On that specific flight, she had brought the Beatles to America.

My friend rarely had problems relating to others again. It was not because of the Beatles, but because she and others acknowledged her life of which brain injury was only one part. From this initial base other wonderful facets also appeared. She could still be as cantankerous and unyielding as anybody, but this was only part of her and there was so much more that she had to give and receive from others. And she no longer introduced herself as "My name is Sally and I'm brain injured." From then on, simply "Sally" was sufficient.

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