

Neurosurgeon/Neurologist: A physician who specializes in the treatment of patients with a variety of brain functioning difficulties. The surgeon may perform brain or spinal cord surgery when indicated.

Occupational Therapist: A professional who uses purposeful activity in the treatment of physically impaired individuals and helps them to achieve maximum optimal functioning. The following areas are evaluated and addressed in the treatment of the brain-injured person as appropriate: self care skills; cognitive/visual perceptual re-training; sensory stimulation; splint fabrication; upper extremity gross and fine motor activities; practical community skills such as pre-vocational training, money management and home visits to adapt physical environments to specific needs.

Physiatrist: A physician specializing in physical medicine and rehabilitation is involved in the evaluation of physical functioning of the body following injury and during the patient's rehabilitation.

Physical Therapist: A professional who evaluates and treats the brain injured patient for neuromuscular deficits to maximize the patient's return to functional activities. Interventions include posturing, adaptive equipment, therapeutic exercise, motor planning activities, transfer and gait training.

Speech-Language Pathologist: A professional who evaluates and treats disorders of comprehension, reading, memory, orientation, oral-motor functioning, writing and cognition which may be present following a closed brain injury.

RANCHOS LOS AMIGOS HOSPITAL: SCALE OF COGNITIVE FUNCTIONING

I. NO RESPONSE

No response to voice, sound, light, touch or pain.

II. GENERALIZED RESPONSE

Generalised reflex response to pain. Responses are inconsistent and not specific to stimuli.

III. LOCALIZED RESPONSE

Reacts to strong light and sound, responds to physical discomfort, inconsistent response to verbal commands.

IV. CONFUSED - AGITATED

Alert, restless, or agitated; severely decreased ability to process information. Performs motor activities but behavior is non purposeful, short attention span.

V. CONFUSED - NON-AGITATED

Responses are non-purposeful and random. Gross attention to environment, highly distractable, requires frequent redirection, difficulty learning new tasks, agitated by external stimuli. Verbalizations are often appropriate.

VI. CONFUSED - APPROPRIATE

Follow simple directions consistently, inconsistent orientation to time and place. Goal-directed behavior with external input. Recent memory impaired, begins to recall past.

VII. AUTOMATIC - APPROPRIATE

Daily routine is automatic but robot-like. Shows increased awareness but skills noticeably deteriorate in unfamiliar environment. Judgement remains impaired, lacks realistic planning for own future.

VIII. PURPOSEFUL - APPROPRIATE

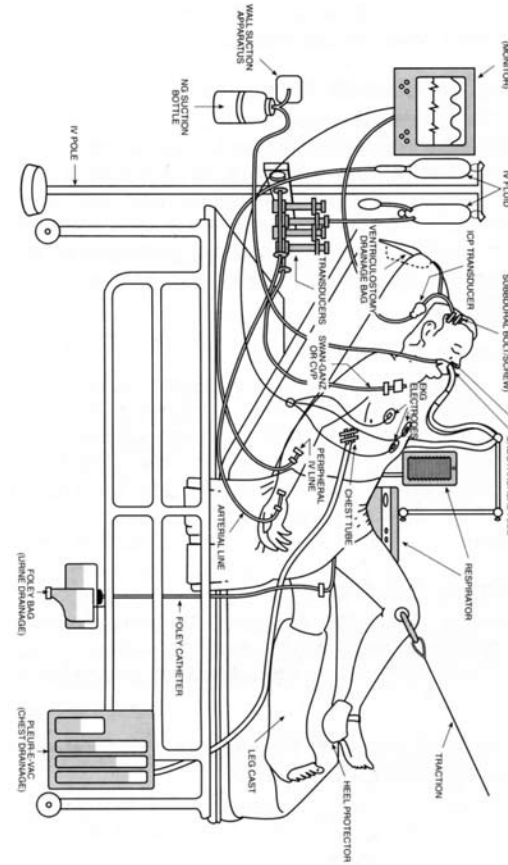
Alert and oriented, able to recall and integrate past and recent events. Independent, home and community skilled.

IX. PURPOSEFUL and APPROPRIATE with stand by assistance on request

Able to perform and complete tasks. Aware of impairments and is able to compensate by corrective action. Able to self-monitor appropriateness of social behavior with stand by assistance.

X. PURPOSEFUL and APPROPRIATE - MODIFIED INDEPENDENT

Able to handle multiple tasks simultaneously. Independently initiates steps to complete tasks but may require compensatory strategies to complete. Appropriately aware of impairments and how they may impact activities of daily living. Social interaction behavior is consistent.



Typical Equipment Used in the Intensive Care Unit Following Severe TBI.

Brain Injury
Association
of Michigan



"Creating a Better Future"

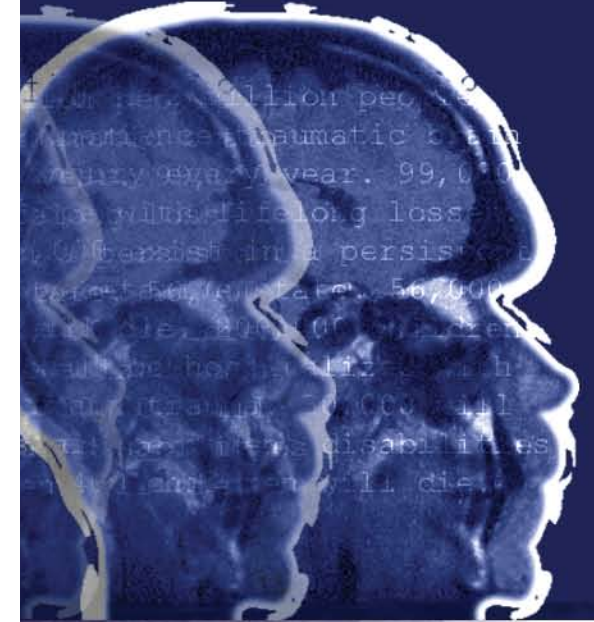
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BRAIN INJURY



Brain Injury
Association
of Michigan



"Creating a Better Future"

A supportive advocacy
organization for persons
with brain injuries, their
families and friends.

Acquired Brain Injury (ABI) is an injury to the brain which is not hereditary, congenital or degenerative.

An acquired brain injury is an injury to the brain that has occurred after birth. Causes of ABI include external forces applied to the head and/or neck (traumatic brain injury), anoxic/hypoxic injury (e.g., cardiopulmonary arrest, carbon monoxide poisoning, airway obstruction, hemorrhage), intracranial surgery, vascular disruption, infectious diseases, intracranial neoplasms, metabolic disorder, seizure disorders and toxic exposure).

What is Traumatic Brain Injury (TBI)?

Traumatic Brain Injury is an insult to the brain, not of a degenerative or congenital nature but caused by an external physical force. It may produce a diminished or altered state of consciousness, which results in impairment of cognitive abilities or physical functioning. It can also result in the disturbance of behavioral or emotional functioning. These impairments may be either temporary or permanent and cause partial or total functional disability or psychosocial maladjustment.

What Does the Brain Do?

The brain is our most vital organ and is involved in every aspect of our body's functioning. One part of the brain controls our breathing, heart beat and circulation. Other parts of the brain control our vision, physical movement, memory, hearing, and emotions.

What is a Concussion?

A blow or jolt to the head can disrupt the normal function of the brain. Doctors often call this type of brain injury a "concussion". Doctors may describe these injuries as "mild" because concussions are usually not life threatening. Even so, the effects of a concussion can be serious. You can have a brain injury without losing consciousness.

What is a Contusion?

A contusion is a bruising of the brain and may have more noticeable loss of functions. More comprehensive care is required for a contusion. Follow up treatment and evaluation may be required on a regular basis.

What is a Skull Fracture?

A skull fracture results in damage to the skin and bone of the skull as well as to the brain itself. The form of medical treatment varies with the location and severity of the fracture. Close observation and follow up treatment are always required. Many skull fractures result in mild to severe problems associated with daily functioning such as: walking, memory, vision, and behavior.

What is a Hematoma?

The collection of blood in one or several locations of the brain creates a hematoma. A hematoma may be between the skull and the covering of the brain (epidural) or may occur between the membrane covering the brain and the brain itself (subdural). Hematomas require surgery (a craniotomy) to be performed.

What is Medical Stabilization?

Many patients with brain injury require time in the hospital for medical treatment such as recovery from surgery, healing wounds, and setting fractures. They may be transferred from the emergency room or ICU to a medical floor for observation, medical treatment and the beginning of rehabilitation services such as physical therapy.

What Happens After Medical Stabilization?

After the patient has gone through medical stabilization, which can take from several days to several months, there are a variety of directions which may be taken.

- The patient may be transferred to a physical rehabilitation unit within a hospital, or a specialized rehabilitation treatment center providing skilled nursing care. Physical, occupational, speech/cognitive and neuropsychological services can be provided on an intensive basis.
- Some patients will not require skilled nursing care and may be transferred to a community program for patients with brain injury. These programs offer both inpatient and outpatient services.
- Some patients will go home with their families and return to the hospital or a specialized outpatient program for their therapies and treatment.
- Some patients who require extended skilled nursing care will be transferred to a long term care facility. Others will return home to receive therapy and around the clock nursing care.

What is Rehabilitation?

Rehabilitation provides comprehensive services to help the patient reach their optimal functional capacity. Rehabilitation is a team concept which includes services of the physicians as well as

physical, occupational and speech therapists, neuropsychologists, social workers and nurses. In addition, other professionals in education and vocational training help oversee treatment services. However, the most important members of the treatment team are the patient and the patient's family.

Which is the Best Choice?

The appropriate choice for continued treatment is a major decision to be made by the patient and family. It is important to talk to your treatment team and fully understand the patient's needs. Each brain injury patient is different, with their own set of individual needs. You must seek out as much information as possible to educate yourself about available resources.

What Do Families Go Through?

Shock, anger, hurt, denial and depression are some of the first reactions families experience. A loved one's brain injury can change the family's life as well. A grown and independent child may require more attention from you. An injured patient may need the assistance of adult children. As the patient goes through the stages of recovery, so does the family. Support and guidance may help the family deal with changes which are ahead. The key is to take one day at a time.

What Can the Family Expect?

Every brain injury case is different. You cannot compare brain injuries like you can a broken arm or leg. The effects of each brain injury are very individualized. No one person has all the answers. You must start to read and gather information on brain injury, its effects and possible treatment avenues open to you. Educating yourself in the first step toward making realistic expectations.

What is the Brain Injury Association of Michigan?

The Brain Injury Association of Michigan is a non-profit organization made up of people with brain injuries, family members, friends and professionals dedicated to providing information, advocacy and support.

Why is Support from Others Important?

You cannot go through this trauma alone! We all need support from those who understand the pain and loss we are suffering. Support groups for both the patient and family are available to you. Take advantage of this now!

Helpful Tips

People with brain injuries tend to have memory difficulties and may persist on a topic and need redirection. They may also become easily frustrated, agitated or angry. Some helpful tips for families are

- Consistency is important
- Treat the individual as an adult
- Recovery from brain injury is a learning process
- Be patient - give extra time to respond
- Over stimulation can hinder progress
- Model calm and controlled behavior yourself
- Expect the unexpected
- People with brain injury are most sensitive to stress
- Take time to listen

Glossary - Medical Terms

This is only a partial list of the hundreds of terms and professionals you will come in contact with:

CT Scan: Computerized Tomography (like an x-ray) is a test which takes a close look at the functioning of the brain by projecting an accurate picture. This test helps locate physical damage to the brain.

EEG: The electroencephalogram measures "electrical" currents from nerve cells of the brain. This test helps diagnose specific neurological conditions; especially the presence of a seizure disorder.

EKG: The electrocardiogram measures variations in the heart and heart muscle by connecting electrodes to the chest. Patients in the emergency room and intensive care units often are monitored with an EKG to assure normal heart functioning.

ICP Monitor: Intracranial Pressure Monitor indicates pressure within the brain. It consists of a small tube attached to the patient at the skull and then to a monitoring device. The ICP monitor helps assure close observation of activity with the brain which may result in swelling of the brain.

Glossary - Medical Professionals

Medical Social Worker: A professional who helps arrange services and programs for the patient and family by communicating between other professionals, insurance payer, patient and family. The Medical Social Worker is instrumental in discharge planning.

Neuropsychologist: A specialist involved in evaluation and treatment in the functional behavioral aspects of rehabilitation. The Neuropsychologist evaluates actual brain functioning in relation to real life activities, behavior and social adjustment.