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What is brain injury?

What happens when your brain is injured.

What is Brain injury?

Brain injury is a general term referring to any injury to the brain. Brain injury ranges from mild to moderate to severe, depending on the type of injury.

Acquired Brain Injury (ABI)

ABI is brain damage caused **after birth** by events such as:

- Strokes and aneurysms
- Infections, such as meningitis
- Hypoxia (not enough oxygen to the brain)
- Brain tumours
- Neurotoxic disorders: drugs and alcohol, pesticides, gases, solvents can all lead to a brain injury
- Trauma to the brain (Traumatic Brain Injury)

Traumatic Brain Injury (TBI)

TBI is an injury to the brain resulting from an **external trauma to the head or body**, which causes the brain to shake inside the skull. **There are two types of TBI:**

- Closed TBI occurs when there is an impact to the brain but the skull is not penetrated or fractured.
- Open TBI occurs when there is an impact to the brain and the skull has been penetrated or fractured.
- The major causes of TBI are car crashes, sports injuries, assaults and falls. The highest risk groups for sustaining TBI are children under 5 years of age, men aged 15 -30 years, and the elderly.

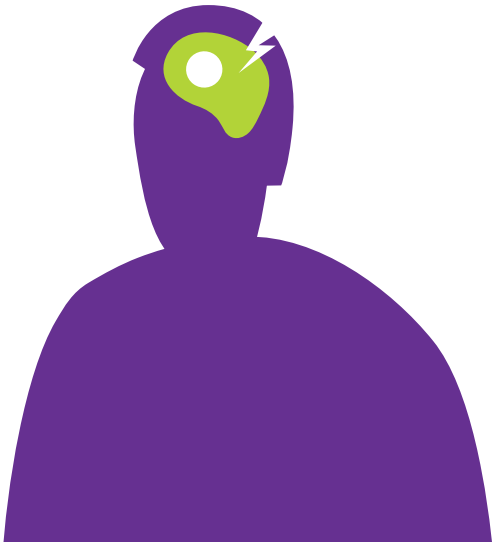
What happens to the brain in a traumatic brain injury?

The brain is like an egg yolk inside an egg shell. The egg shell is the skull. The egg yolk is the brain itself and the egg white is the fluid that surrounds the brain.

The brain has pressurised fluid (cerebral spinal fluid) all around it that acts as a shock absorber so sudden head movements are not damaging to the brain. This fluid layer protects the brain from the common knocks, bumps and accidents of day to day living.

In an accident, the brain, is injured by the pulling or tearing of delicate brain tissue, which is the consistency of poorly set jelly, leaving it bruised or damaged. If the skull is broken, pieces of bone may pierce the brain causing bleeding and bruising to the brain. Usually the damage is caused by a sudden acceleration and deceleration of the brain (for example whiplash in a car crash).

The rate of recovery is variable depending on what part of the brain is injured, the severity of the injury and the management strategies adopted by the individual.



Concussion / Mild Traumatic Brain Injury (TBI)

A concussion, also known as a **mild traumatic brain injury**, is caused either by a direct blow to the head, face, neck or elsewhere on the body with a force to the head.

You might not need to go to hospital/doctor immediately, but it is important to note that signs and symptoms may appear hours or even days later. Also there does not need to be loss of consciousness in order to sustain a concussion.

The symptoms are caused by nerve damage that may not be detectable with scans or x-rays. The symptoms are your body's way of telling you something is wrong. In most cases, the damage is not permanent but, like any injury, your body needs time to repair this damage.

As a result of concussion some people may experience emotional, behavioural and thinking problems which can interfere with their lives. Most of these problems resolve within three months. However some of these symptoms may persist beyond this period. This is known as Post Concussion Syndrome.

Symptoms

Brain injury can cause a range of problems and symptoms including:

- Headache
- Fatigue
- Nausea / Vomiting
- Blurred vision / Dizziness
- Deafness
- Short attention span
- Ringing in the ears
- Memory loss
- Moodiness
- Difficulty sleeping
- Irritability

Effects

The effects of a brain injury will vary from person to person and can result in any or all of the symptoms outlined below.

Changes in thinking, such as difficulties with:

- Attention and concentration
- Ability to learn new information
- Memory
- Planning and organisation
- Reasoning and decision making

Behaviour and personality changes:

- Being impulsive - rushing into things before thinking
- Disinhibition - lack of self control
- Lacking initiation - difficulty getting started on things
- Irritability - frustrated and/or short-fused
- Lack of insight/self-awareness - inability to judge own strengths/weaknesses and how actions affect others

Fatigue, also known as extreme tiredness, is one of the most common symptoms of brain injury. Often fatigue is connected with thinking tasks, a tired mind rather than a tired body. In order for the brain to heal it needs lots of rest.

You may experience:

- Difficulty with social interaction
- Trouble communicating ideas and thoughts
- Difficulty with reading, writing, finding the right words, grammar and understanding what is being said
- Problems with the movements needed for talking or swallowing, such as muscle weakness of the tongue or lips
- Feeling low, stressed or anxious

Sensory changes:

- Sensitivity to noise and light
- Changes in taste, smell or touch
- Hearing loss
- Visual problems

Physical changes:

- Headaches
- Sleep disturbances
- Co-ordination and balance problems
- Changes in sexual function
- One side of the body may be weakened/ paralysed
- Pain
- Seizures

Remember to discuss these symptoms with your Doctor, Case Manager, or your family and friends.

Generally improvement is greater in the first two years but a person's functioning can still improve for years after.

For further information

Some of the other leaflets in this series may help or you can contact your local Brain Injury Association, ACC, Ministry of Health or Disability Resource Information Centres.

For more information go to:
www.brain-injury.org.nz

My important contacts:

Brain Injury Association: .....

Doctor: .....

Case Manager: .....

Other contacts: .....

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