

What is an Acquired Brain Injury?

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An Acquired Brain Injury (ABI) is any sudden damage to the brain received during a person's lifetime and not as a result of birth trauma.

Headway's definition of ABI is:

"A non-progressive acquired injury to the brain with sudden onset."

Each injury is unique, which means that symptoms can vary widely according to the extent and location of the damage to brain tissue.

Acquired brain injury is referred to as the hidden disability because its long term problems are often in the areas of thinking and behaviour and are not as easy to see and recognise as many physical disabilities.

Who does it affect?

Currently, there are no official statistics for the number of people living in Ireland with a brain injury. By studying data from a number of other countries and basing it on the Irish population, we estimate that between 9,000 and 11,000 people sustain a traumatic brain injury annually in Ireland, with a further 7,000 being diagnosed with a stroke.

Additionally, we estimate that there are up to 30,000 people in living in Ireland between the ages of 16-65 with long term problems following brain injury. Brain injury is the foremost cause of death and disability in young people. Those that are between 15-29 years of age are three times more likely to sustain a brain injury than any other group.

What causes an acquired brain injury?

An acquired brain injury can result from:

- A traumatic injury such as a road traffic accident, a fall, an assault or a sporting injury
- Stroke
- Brain tumour
- Haemorrhage
- Viral infection e.g. meningitis, encephalitis or septicaemia
- Lack of oxygen to the brain e.g. as a result of a heart attack (anoxia/hypoxia)

There are other sources of damage to the brain that occur with degenerative conditions such as Alzheimer's disease, Motor Neuron disease or Multiple Sclerosis. These conditions may have characteristics different to our definition of ABI, and carers and families affected by these will need specialised help.

Types of brain injury

There are two types of brain injury **traumatic** and **non-traumatic**.

A traumatic brain injury can be classed as an **open** or **closed** injury. A closed injury is caused when the brain is bounced around in the skull due to a blow to the head or severe shaking such as in a road traffic accident. A closed motion can cause tearing, shearing or stretching of the brain tissue. These types of injury are much more common than open head injuries. An open injury occurs when an object such as a bullet, fractures the skull and enters the brain.

These injuries usually damage relatively localised areas of the brain resulting in specific damage.

A non-traumatic injury is an injury that does not occur as a result of trauma. This includes stroke, tumours, infectious diseases, lack of oxygen or toxicity.

Severity

Severity of injuries can be classified as mild, moderate or severe. The duration of coma and/or Post-Traumatic Amnesia (PTA) can be used to make a judgement of how severe the injury is.

Between 75-90% of all brain injuries are considered mild. They are often the result of a fall or minor collision, and may involve a brief loss of consciousness of less than 15 minutes, or no loss of consciousness at all.

Moderate injury is often defined as a loss of consciousness of between 15 minutes and 6 hours and PTA of up to 24 hours. A severe brain injury is usually defined as a condition where the patient has been in a coma for 6 hours or more, or has PTA of over 24 hours and may require a long period of intensive care or neurosurgery.

Consequences of brain injury

Following a brain injury, many changes occur that may be either temporary or permanent. Each person is unique, and the changes depend upon the type, severity and location of injury as well as the person's pre-injury personality and abilities. The extent of some changes may only become apparent as time progresses. Often a person with an injury to the brain can fall unconscious for a period of time.

When the unconscious state is prolonged, it is termed a coma. Most brain injuries will involve some period of unconsciousness either immediately, or shortly after an injury which will vary depending on the severity.

There are a number of ways that a brain injury can impact on the individual including:

Cognitive changes – alterations in the ability to think and learn:

- Lack of insight
- Memory problems
- Poor concentration
- Slowed responses
- Poor planning and problem solving
- Inflexibility
- Communication difficulties

Physical changes:

- Fatigue
- Headaches
- Chronic pain
- Loss of taste and smell
- Seizures
- Visual and hearing problems
- Sexual function

Behavioural changes:

- Impulsivity
- Irritability
- Inappropriate behaviour
- Self-centredness
- Depression
- Lack of initiative
- Sexual behaviour