

Acquired brain injury (ABI) refers to any type of brain damage that occurs after birth. It can include damage sustained by infection, disease, lack of oxygen or a blow to the head.

Two thirds of all people with an ABI who have their activity limited or restricted are over the age of 45. One third of those are over the age of 65. The largest age group is between 40 and 49 and, at all ages except for those aged 80 and over, rates for males are higher than for females.

## **How brain injury occurs**

Brain injury can occur through:

- sudden onset – caused by trauma, infection, lack of oxygen (for example, during near drowning or suicide attempts), strokes or drug use episodes
- insidious onset – from prolonged alcohol or substance abuse, tumours or degenerative neurological diseases.

## **Causes of acquired brain injury (ABI)**

Acquired brain injury is any damage to the brain that happens after birth. The specific symptoms or losses of functioning depend on which brain areas are affected.

Some of the causes include:

- alcohol or drugs – which can poison the brain
- disease – such as AIDS, Alzheimer's disease, cancer, multiple sclerosis or Parkinson's disease
- lack of oxygen – called anoxic brain injury (for example, injury caused by a near drowning)
- physical injury – such as an impact (or blow) to the head, which may occur in vehicle or sporting accidents, fights or falls
- stroke – when a blood vessel inside the brain breaks or is blocked, destroying the local brain tissue.

## **How ABI affects a person**

The long-term effects of brain injury are difficult to predict. They will be different for each person and can range from mild to profound.

It is common for many people with ABI to experience increased fatigue (mental and physical) and some slowing down in how fast they can process information, plan and solve problems. They may experience changes to their behavior and personality, physical and sensory abilities, or thinking and learning.

## **How the brain works**

The brain is the powerhouse of the body, even though it only makes up two per cent of the body's weight. This soft, jelly-like organ has countless billions of neural cross-connections. It functions using a combination of electrical and chemical means.

The brain oversees the workings of the body, and gives us consciousness and personality. It is divided into two halves; the left hemisphere and the right hemisphere. Each hemisphere is further subdivided into lobes.

Different functions happen in different parts of the brain, which is suspended in a chemical 'soup' called cerebrospinal fluid. This fluid nourishes the brain and serves as a shock absorber. The brain is connected to the rest of the body through the spinal cord. Together, the brain and spinal cord make up the central nervous system.

## **Traumatic brain injury**

Traumatic brain injury (TBI) is not the same as head injury, since a person can sustain damage to the face, scalp and skull without necessarily injuring their brain. TBI is considered a form of acquired brain injury, and refers to brain damage caused by an impact to the head.

When the head is struck hard, the brain slams against the inside of the skull, causing physical injuries such as bruising, swelling, bleeding, twisting or tearing of tissue. There are degrees of injury, ranging from a momentary loss of consciousness (which can happen from a punch to the face, for example) to a long-term bout of unconsciousness or coma.

## **Treatment for brain injury**

A range of tests, including x-rays and CT brain scans, can help pinpoint the exact areas of damage. In some cases, surgery may be needed. Recovery depends on the extent and location of the brain damage, the age and general health of the person, the speed of first aid received and the quality of treatment.

The consequences of a person having an ABI are far reaching. Coping with any loss of functioning and going through rehabilitation can be difficult. The person with an ABI will have great distress. Family, friends and partners will also experience difficulties as they deal with emotional and practical challenges, interruptions to family life and role changes.

An ABI can affect intimate relationships, friendships, social networks, recreational and vocational activities. It may force the person and their immediate family to adapt to a completely new way of life and new kinds of relationships.

Caring for someone who has had a brain injury may bond a family closer together. It can also mean enormous burdens for the family, which may tear it apart.

It will help if family members:

- have good information about the effects of ABI
- appreciate the difficulties that might be encountered
- understand that recovery is a slow process.

For careers to cope with the situation, it helps to:

- stay with the present, rather than brooding about how catastrophic the future may be
- highlight strengths and daily achievements, rather than the weaknesses
- make time to care for themselves
- be wise enough to ask for help when it is needed.

## **Where to get help**

- Your doctor
- Neurologist
- Acquired Brain Injury (ABI) Rehabilitation Unit, Epworth Hospital Tel. 1300 46 REHAB (73422)

## **Things to remember**

- Acquired brain injury refers to any type of brain damage that happens after birth.
- Causes of ABI include disease, blows to the head, alcohol and drug use, or oxygen deprivation.
- Coping with the consequences of acquired brain injury can be difficult for everyone, including family members

## References

- Acquired Brain Injury – Fact Sheet. Synapse: Brain Injury Association of QLD