The effects of brain injury

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Introduction

This factsheet provides an overview of the main difficulties that can affect individuals and their families after brain injury. All brain injuries are different and people may be affected to a varying degree by any number of these problems, depending on the severity of their injury and the area of the brain which is affected.

The main effects of brain injury are grouped into three categories, which are dealt with in turn:

Physical – affecting how the body works

Cognitive – affecting how the person thinks, learns and remembers

Emotional and behavioural – affecting how the person feels and acts

The information has been adapted from the Headway booklet *The effects of brain injury and how to help*, which is available on the Headway website at www.headway.org.uk/information-library.

Physical effects

Mobility can be affected following brain injury. Movement can become very slow and balance can be affected. Indeed, having a brain injury can sometimes feel like 'living life in the slow lane'. Some people may need a wheelchair or other mobility aids, because their poor balance and co-ordination means they cannot walk without support. The fact that they use a wheelchair does not necessarily mean that the person cannot stand or walk for short distances.

For more information on problems with balance, see the Headway factsheets *Balance problems and dizziness after brain injury – causes and treatment* and *Balance problems and dizziness after brain injury – tips and coping strategies*.

Spasticity can be present. Limbs may be stiff or weak, and the range of movement limited. Often one side of the body is affected more than the other, depending on the area of the brain that is injured. Spasticity may cause pain or discomfort. If this occurs it is

advisable to seek help from a GP, who may be able to prescribe drugs to reduce muscle spasms.

Weakness (hemiparesis) or paralysis (hemiplegia) often affects one side of the body more than the other, depending on the side of the brain that is injured (each half of the brain controls the opposite side of the body). It is particularly common after stroke. This could mean that help is needed during personal care and when getting dressed or undressed.

For more information on hemiplegia and hemiparesis, see the Headway factsheet *Coping with hemiplegia and hemiparesis*.

Ataxia is irregular, uncontrolled movement or tremor affecting the co-ordination of movements. The person's hands may be shaky or clumsy, and handwriting may be difficult or impossible.

Sensory impairment. Sensation of touch on the skin may be reduced, lost or exaggerated. It may also be difficult for the person to know where their limbs are positioned without looking at them. Eyesight may be affected, and this may not be correctable with glasses. Odd postures or walking patterns may also be explained by sensory impairments. Taste or sense of smell may be impaired or lost, either in the short or long term.

For more information on visual problems, see the Headway factsheet *Visual problems after brain injury*. For more information on loss of taste and smell, see the Headway factsheet *Loss of taste and smell after brain injury*.

Fatigue (or excessive tiredness) is common to all severities of brain injury, including mild injuries. Tasks that we take for granted, such as getting dressed or walking around can require much more effort after brain injury. It is important to allow for rest periods at regular intervals during the day, and not to feel that everything has to be done at once.

For more information and guidance on fatigue, see the Headway booklet *Managing fatigue after brain injury*.

Difficulties with speech. Slow, indistinct or rapid speech is common after brain injury. It may be hard to understand the person's speech at first, but the listener may learn to 'tune in'. Some people may repeat what they have to say many times over (this is known as **perseveration**). Some people may lose the ability to speak altogether. Remember, their inability to express themselves does not mean that they have lost their intelligence.

For more information on communication problems, see the Headway booklet *Coping with communication problems after brain injury*.

Epilepsy. Brain injury can make a person prone to epileptic seizures or 'fits'. Many people who have had a seizure after a brain injury are given a drug for a number of years to reduce the chance of it reoccurring. The drug may have an overall 'dampening' effect on the person's level of arousal, and therefore on the performance of everyday tasks. Remember the added effect that this could have if the person already has excessive fatigue.

For more information on epilepsy, see the Headway factsheet *Epilepsy after brain injury*.

It is also important to remember that a person who suffers from seizures may not be allowed to drive and should contact the DVLA for advice. For more information on this, see the factsheet *Driving after brain injury*.

Hormonal imbalances. Brain injury may cause damage to the hypothalamus and/or pituitary gland, which are small structures at the base of the brain responsible for regulating the body's hormones. This can lead to either insufficient or increased release of one or more hormones, and conditions such as hypopituitarism or neurogenic diabetes insipidus. Symptoms can include depression, impotence, mood swings, fatigue, muscle weakness, reduced body hair, fluctuating body weight, sensitivity to cold, increased thirst, excessive production of dilute urine, and many others.

For more information on hormonal imbalances, see the Headway factsheet *Hormonal imbalances after brain injury*.

Sexual functioning. There are a number of different parts of the brain that are responsible for the skills involved in sexual activity. When these are injured, it can cause problems with sexual functioning and wellbeing. This can have an impact on existing and future relationships and can affect how the survivor feels about themselves. Sexual functioning is a very personal and sensitive subject and whether you can offer support or advice will depend on the relationship you have with the survivor.

For more information on sexual functioning, see the Headway booklet *Sex and sexuality after brain injury*.

Cognitive effects

Problems with memory, particularly short-term memory and 'working memory', are common after brain injury. Some people may be unable to remember faces or names, what they heave read or what has been said to them. New learning may be affected, while previously learned skills may still be intact.

For more information and practical tips on coping with memory problems, see the Headway booklet *Memory problems after brain injury* and the Headway factsheet *Coping with memory problems: practical strategies*.

Language loss (aphasia). This may be 'receptive' (difficulty making sense of what is said or read) or 'expressive' (difficulty finding the right words to say or write), or both. This can be very frustrating for the person and for others, and patience is needed on both sides. Remember, just because a person cannot express themselves, does not mean they do not need or want to be heard.

For more information on language loss, see the Headway booklet *Coping with communication problems after brain injury*.

Impairments in visual-perceptual skills. The person may have difficulty making sense out of ordinary pictures and shapes, finding their way around a building, or drawing or constructing objects. Some people have difficulties recognising certain objects (agnosia), such as human faces (prosopagnosia or 'face blindness'). These problems can be particularly frustrating for a person who is competent in their language and social skills. Occasionally, people may fail to respond to stimuli coming from one side of their visual field, or may ignore a particular side of their body, for example when shaving or dressing. This condition is known as visual neglect.

For more information on prosopagnosia, see the Headway factsheet *Prosopagnosia: face blindness after brain injury*. For more information on visual problems in general, see the Headway factsheet, *Visual problems after brain injury*.

Reduced initiation and problems with motivation. Problems with getting started on tasks are common, and can often be mistaken for laziness. These problems may also be a symptom of depression.

Reduced concentration span. This is very common and can also impact on memory problems. Completing tasks can be a problem and the task may be abandoned before reaching the end. The person may initially appear eager to start a task, but then lose interest very quickly.

Reduced information processing ability. It may be difficult for the person to organise facts in their mind, particularly if there are also memory problems. 'Information overload' can be quickly reached, which can cause frustration and anger.

Repetition or **'perseveration'**. The person may be unable to move on to another topic in the same conversation, and they may return to the same topic over and over again. They may also repeat the same action, appearing unable to break the cycle.

Impaired reasoning may affect a person's ability to think logically, to understand rules, or follow discussions. The person may easily become argumentative due to lack of understanding.

Impaired insight and empathy can cause difficulties in accurately perceiving and

interpreting one's own and other people's behaviour and feelings. Putting oneself 'in someone else's shoes' can be almost impossible. The person may also have an unrealistic view of themselves and others, and may not appreciate that they have certain problems. This may lead to unattainable goals being set, which then leads to frustration.

For more information on lack of insight, see the Headway factsheet *Lack of insight after brain injury*.

Reduced problem-solving ability. It may be difficult for the person to work out what to do if they encounter an unexpected problem.

Many of the above cognitive effects are collectively called 'executive dysfunction'. For more information on this, see the Headway factsheet *Executive dysfunction after brain injury*.

Emotional and behavioural effects

Personality changes. Many people experience changes in aspects of their personality. These can range from subtle changes in some areas, to dramatic transformations. This can be difficult for family members and friends to deal with as they find themselves dealing with a totally different person. For the person with the brain injury, losing a sense of their own identity can also be difficult to cope with.

Mood swings or **'emotional lability'**. The person may have a tendency to laugh or cry very easily, and to move from one emotional state to another quite suddenly.

Depression and **sense of loss** are common. Depression may be caused by injury to the areas of the brain that control emotion, but can also be associated with the person gaining an insight into the other effects of their injury. After brain injury, many things that are precious to the individual may be lost forever and there may be much sadness, anger, guilt and confusion, surrounding this.

For more information on depression, see the Headway factsheet *Depression after brain injury*.

Anxiety can be another consequence of brain injury. Life has been changed forever in a matter of seconds, and the future can look frightening. Anxiety can quickly lead to frustration and anger and needs to be identified and alleviated as early as possible.

Frustration and anger. Frustration can build up quickly, especially when things that were once so easy are now difficult or impossible. The resulting anger may be very difficult for the person to control.

For more information on managing anger, see the Headway booklet *Managing anger after brain injury*.

Disinhibition. There may be a loss of control over social behaviour, so that the person may behave in an over-familiar manner or may make sexual advances with the wrong people at the wrong time. They may also be unable to inhibit what they are thinking and may make inappropriate and offensive outbursts. This behaviour can be embarrassing and upsetting for loved ones.

Abusive or obscene language may be used. This may be spontaneous and uncontrollable, and may be an outlet for the person's anger and frustration. Again, this behaviour can obviously be embarrassing and upsetting for loved ones.

Impulsiveness. A person with a brain injury may tend to speak or act without thinking things through properly first.

Obsessive behaviour can occur. For example, a person may be afraid that their possessions will be stolen, and may check their belongings repeatedly.

Loss of confidence. This is very common after brain injury and a person can need a lot of encouragement and reassurance.

Conclusion

The effects described in this factsheet are the most common effects typically experienced after brain injury. They may occur in any combination and there may be other, more unusual, effects.

To discuss any issues raised in this factsheet or to find details of our local groups and branches, please contact the Headway helpline free of charge on **0808 800 2244** or helpline@headway.org.uk. You can also find more information and contact details of groups and branches on our website at www.headway.org.uk.

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