

# RECOVERING FROM MILD BRAIN INJURY/CONCUSSION

## A GUIDE FOR PATIENTS

Mild brain injury (or concussion) is relatively common and typically occurs as a result of a blow to the head during sports, a motor vehicle collision, or a fall. People often report or present as being dazed, confused, experiencing amnesia, or knocked unconscious for a short period of time from their injury. Brief memory loss for events just before, during, or immediately following the injury is also commonly reported (Sosin, Sniezek and Thurman, 1996). These experiences are normal and not cause for concern. That is, an excellent recovery is expected (McCrea, 2008). Although medical intervention is usually not necessary, many people go to the emergency department after such an experience for evaluation, which may include a brain scan and thorough examination to rule out a more serious brain injury

### **WHAT HAPPENS TO YOUR BRAIN IN AN INJURY?**

In most cases, a minor blow to the head does not cause any lasting symptoms or ill effects (e.g., Alves, Macciocchi and Barth, 1993; Schretlen & Shapiro, 2003). This is because the brain is surrounded by shock absorbing liquid and covered by the skull. These defences are usually enough to protect the brain from any damage from this type of incident.

Sometimes the force of impact is more severe. This can cause the skull to break or fracture. When the skull fractures, some of the force of the blow is absorbed and protects the brain in the same way that a crash helmet does. However, the brain may be shaken around inside the skull and can sometimes cause the brain to bruise if it hits the inside of the skull hard enough. Just like a bruise on your arm or leg, this will recover with time. If there are many bruises on the brain, some swelling will also occur, extending the healing time and increasing the chances of a less complete recovery.

### **HOW SERIOUS ARE BRAIN INJURIES?**

One way to determine the severity of a brain injury is to consider the amount of time an individual was unconscious afterwards. If they did not lose consciousness or if they were 'knocked out' for less than an hour, then the injury is most likely 'minor' or 'mild.' Although symptoms may be present, it is probable that little injury to the brain occurred. Most people recover completely from a minor brain injury.

Recovery takes longer if the period of unconsciousness after injury is longer. If an individual was unconscious for more than an hour but less than a day, injuries are most likely moderate. Returning to generally normal will probably take a while (i.e., months).

Individuals who are unconscious for more than a day have suffered a severe traumatic brain injury. Although many people recover quite well even after severe brain trauma, symptoms can often last for some time. Recoveries are often incomplete and, in very severe brain injuries, many symptoms can be highly significant and permanent. These individuals will spend several days (or months) in an acute hospital followed by several days (or months) in acute rehabilitation.

## **WHAT ARE COMMON SYMPTOMS OF BRAIN INJURY?**

You should not be alarmed if you have some symptoms after mild brain injury, as this is expected (McCrea, Guskiewicz & Marshall et al., 2003). Being knocked out, feeling ‘dazed’ or having amnesia for events that happened before or after the injury are all common signs of mild brain injury. Most individuals will also have some temporary symptoms associated with their brain injury that may persist for a short time after the injury. These may include headache, blurry or double vision, sensitivity to bright light, fatigue, reduced concentration or memory, irritability, or other mood changes like depression or anxiety. It is rare, however, for one individual to experience all of these symptoms (Alves, Macciocchi and Barth, 1993).

## **HOW LONG WILL SYMPTOMS LAST?**

Most symptoms following a mild brain injury resolve in a short period of time (i.e., within days or weeks, sometimes up to a few months) even without treatment. Recent research shows that symptoms persisting longer than three to six months are *exceedingly rare* following mild head injury (Lovel, Collins, Iverson, et al., 2004; McCrea, Guskiewicz & Marshall, et al., 2003). This research finding is important to keep in mind in evaluating and drawing conclusions about persisting symptoms.

## **WHAT CAN I DO ABOUT SYMPTOMS?**

Some people find at first that symptoms make it difficult to return to work, perform daily activities, or even just relax. The best way to deal with this is to resume activities and responsibilities gradually, a little at a time. Initially (i.e., the first few days or possibly weeks), it is important to respect the presence of symptoms. Research (e.g., Mittenberg, Zielinski & Fichera, 1993) shows and most practitioners agree that recovery is ultimately faster when rest is taken as needed and responsibilities are resumed gradually. After leaving hospital, one week of relaxing at home followed by a week of gradually increasing activities is best for most individuals. Generally, these individuals are back to work or school within three to four weeks. Ignoring symptoms or trying to ‘tough it out’ does not seem to be helpful. Further, individuals who do not receive guidance or advice about the recovery process, generally take longer to return to their normal routine. They also report more symptoms than those who return to their routines gradually.

It is important to understand that focusing on or worrying about symptoms can often make them seem worse. For example, focusing on your heartbeat or breathing for a minute or two will induce a heightened awareness of that sensation, making them seem more pronounced. Similarly, focusing on symptoms after a mild head injury will also make them seem more serious.

## **WHAT ARE NORMAL SYMPTOMS?**

It is important to remember that symptoms resulting from mild brain injury (e.g., poor concentration, irritability, fatigue, headaches) are a normal part of recovery and will resolve on their own. Of course, we all experience some of these symptoms once in a while anyway. After a concussion it can sometimes be forgotten that irritability, fatigue,

headaches, poor concentration, or memory difficulties occurred before the injury as well. Research does show that some reported symptoms may not be related to the injury in question. Some practitioners refer to this as 'post-concussion syndrome.' It is usually described as similar to the symptoms of ordinary day-to-day stress. For example, individuals who have never had a head trauma report the following symptom rates (Mittenberg, Zielinski & Fichera, 1993):

- Headache (26%)
- Fatigue (34% for females; 25% for males)
- Pain (20%)
- Memory problems (37%)

Everyday stress can be an important cause of some of these symptoms. Experiencing a head trauma may cause everyday stress to worsen. Of course, a brain injury can directly cause these same symptoms from physical harm to the brain. But there are many indirect stressors that can be attributed to the effects of a mild brain injury. The incident itself, being in the hospital, and going back to work or school are all things that may add stress to an individual's life. Financial concerns or time constraints may arise. There may be other bodily injuries to cope with as well. Generally, engaging with regular work involvements immediately after a brain injury could be compared to playing baseball or swimming with a pulled muscle. The injury is not outwardly visible and probably will not cause long term effects, but it takes some time to get better.

Worrying about symptoms also contributes to stress after a head injury. Studies (e.g., Mittenberg, Canyock, Condit, et al., 2001) show that individuals who receive information about their injury (such as a brochure like this one) recover faster and feel better during recovery than patients who do not get such information. Practitioners in North America who treat head injuries agree that the single most important factor for recovery is that *patients know what to expect and how to cope with symptoms.*

### **MORE ABOUT SPECIFIC SYMPTOMS**

- *Poor concentration:* The main cause of poor concentration is fatigue. When it becomes difficult to concentrate, taking a break and relaxing for about 15 or 30 minutes should be enough to help resume the activity. If problems continue, temporarily shortening the work day, class schedule, or daily routine is recommended. However, this should not be a long-term need. Research shows that recovery of thinking skills after a mild brain injury is excellent.
- *Irritability:* One of the most common causes of irritability is fatigue. People generally lose their tempers more easily when they are tired or over-worked. Adjusting schedules and getting more rest is recommended.

It is important to be aware that anger is a normal emotion. Irritability becomes a problem when it interferes with the ability to get along with people from day to day. Frequently getting into heated arguments at home or at work may be an indication that better anger management is needed. It is often the case that people become angrier about an irritating incident after it is over, tending to dwell on or

exaggerate certain details. Being aware of this may help to settle overly angry emotions. Additionally, it might be helpful to try and see different perspectives about an issue. Imagining the reasons for another person's actions may be the first step to solving the problem. This step is obviously easier when emotions are calm and each point of view can be explained and respected.

Problems can usually be solved in multiple ways. Thinking of at least five different ways and deciding which is best is a good way to approach a dilemma. Irritation can sometimes be lessened just by recognizing that there are several ways to proceed after an irritating event.

- *Fatigue*: It is normal to be more tired after a concussion. Initially, the only sensible treatment for fatigue is rest. Avoiding activities that cause exhaustion and gradually increasing activity levels is recommended. It is highly unusual for fatigue to persist after several weeks. When it does not remit after several weeks, other causes should be considered.
- *Memory Problems*: Memory difficulties can have several different causes. Being able to recall the injury indicates strongly that the brain was not injured during the incident. Memory problems that individuals notice after a mild brain injury are usually not caused by injury to the brain itself but rather from fatigue or heightened stress.

Getting enough rest will help concentration levels and memory. In fact, having trouble with memory can be a sign of overexertion, that too much has been taken on too soon. Memory aids such as taking personal notes or using a personal electronic device are excellent ways of coping with temporary memory difficulties. These methods will help recovery and not slow it down.

Of course, nobody has a perfect memory and it is important to remember that forgetfulness is something that everyone experiences from time to time. Research has shown that some symptoms that may seem very relevant have nothing to do with head injury. Common memory lapses, along with the percentage of people who experience them, are shown here (Mittenberg, Zielinski, & Fichera, 1993):

<b>Common memory lapse</b>	<b>Percentage of People</b>
Telephone numbers	58%
People's names	48%
Where a car was parked	32%
Where car keys are placed	31%
Grocery items	28%
Why they entered a room	27%
Directions	24%
Appointment dates	20%
Store locations in a shopping centre	20%

Items around the house	17%
Losing a wallet or pocketbook	17%
Forgetting the content of daily conversations	17%

After a mild brain injury, memory difficulties can seem worse than they are since moments of memory trouble are focused on and worried about. A good thing to keep in mind is that if someone can remember their memory problems, there is probably not much to worry about! Generally, people with serious memory difficulties are not upset by their symptoms. They do not remember that they have had memory trouble.

- *Headaches:* Headaches are part of the normal recovery process, but that does not make them any easier to endure. They can also contribute to irritability and concentration problems after a mild brain injury. Headaches have many causes and are not necessarily caused by a direct injury to the brain, especially after about a month. In fact, one of the most common causes of headaches after a head injury is stress or tension. If headaches start several weeks after the injury, this is usually the case. As time goes on, headaches are much more likely a reflection of stress than direct consequences of a head injury.

Worry and stress cause tension headaches by increasing muscle tension in the neck and forehead. Muscles can become tense and stay this way without any realization. Once a headache starts, they can become even tighter because muscles automatically tense in reaction to pain, making the headache worse.

- *Anxiety:* Worry about symptoms and problems at work are the main causes of anxiety for most individuals after a concussion. Getting enough rest and gradually increasing responsibilities at work or school can help decrease anxiety. However, worrying can become habitual and it is sometimes very difficult to simply stop worrying. One way to help decrease worrisome thoughts is by gaining knowledge about the situation. Understanding normal recovery duration and symptoms can be extremely helpful after a head injury. Asking questions, following the advice of knowledgeable practitioners, and seeking help if symptoms become overwhelming are good strategies to minimize worry. It is sometimes a relief just to know that most people would experience the same difficulties after a similar injury.
- *Dizziness, visual difficulties, and light sensitivity:* These symptoms usually resolve within days to a few months in the vast majority of individuals. If these symptoms are troublesome, a doctor may want to prescribe medication for motion sickness.

Increased sensitivity to bright lights or loud noises may occur, particularly if headaches are also experienced. Some increased sensitivity is normal, although should be quite temporary, after a mild brain injury.

## SUMMARY

Research overwhelmingly shows that the natural recovery from mild brain injury is excellent. A variety of symptoms can occur, although research shows that they almost always resolve quickly. Many of the symptoms attributed to a mild brain injury are also common in the general population, for example, as a result of everyday stress. Worrying about or focussing on symptoms tends to amplify the perceived severity of difficulties adding more stress to the situation, which produces more symptoms and ultimately extends recovery time. These effects can be decreased by gaining knowledge about the nature of mild head trauma, common symptoms, and expected recovery times.

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This informational handout was prepared by Dr. T. Levitt for the Sask Central Acquired Brain Injury Outreach Team. Portions of the content are based on Mitttenberg, W. Zielinski, R., Fichera, S. (1993). Recovery from mild head injury: a treatment manual for patients. *Psychotherapy Private Practice*, 12: 37-52; Iverson G.L. (2005). Outcome from mild traumatic brain injury. *Current Opinion in Psychiatry*, 18, 301-317; and, M. McCrea (2008) Mild Traumatic Brain Injury and Post-concussion Syndrome: The New Evidence Base for Diagnosis and Treatment: American Academy of Clinical Neuropsychology.

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