What happens in a Traumatic Brain Injury (TBI)?

A TBI occurs when there is a blow to the brain such as in a motor vehicle or bicycle crash, a fall, an assault, a sports injury, etc. In most cases, there are no lasting symptoms or ill effects from an injury to the brain—unless the skull breaks or fractures and the brain becomes bruised. Bruises may take a while longer to return to normal. Most people who suffer a concussion recover completely in time because the damage is minor. Recovery is usually faster when the patient gets enough rest and resumes responsibilities gradually.

Common Causes of Symptoms After a TBI

Bruises—The brain can be shaken around inside the skull when the head is hit. If the shaking was hard enough the brain can get bruised as it hits the skull. These go away in time.

Swelling—Swelling takes a while longer than bruising to return to normal.

Snapped Nerve Fibers—Even though we can only see axons under a microscope, we know that they can heal because in time many patients recover completely.

Broken Blood Vessels—If a TBI is very serious, blood vessels can tear and bleed soon after the injury. Usually, the bleeding stops on its own and the blood vessels heal like any other cut does.

TBI Severity is based on:

- Loss of consciousness
- Abnormal results on a brain scan such as a CT or MRI
- Length of time until the patient is first able to follow instructions
- Duration of confusion.

Recovering from Mild TBI/Concussion

If you were not knocked out at all or were unconscious for less than 30 minutes, then the injury was most likely minor or mild. The longer the length of unconsciousness, the longer the recovery usually takes. If the patient was knocked out for more than 30 minutes, but less than one hour, the injuries were most likely moderate. Return to normal will probably take a while. Patients who are unconscious for more than one hour have suffered a severe injury. Although many patients make a good recovery even after a severe head trauma, symptoms can often last for some time. In very severe head injuries, many symptoms can be permanent. Treatment at a rehabilitation center is usually recommended and can help recovery.

Common Symptoms of Mild TBI Compared to Symptoms of Everyday Stress

Many common symptoms experienced by those with a Mild TBI are comparable to common symptoms of everyday stress. Common symptoms, and the percent of Mild TBI patients experiencing these symptoms, include: poor concentration (71%), irritability (66%), tired a lot more (64%), depression (63%), memory problems (59%), headaches (59%), anxiety (58%), trouble thinking (57%), dizziness (52%), blurry or double vision (45%), and sensitivity to bright light (40%).
**Symptoms of Mild TBI/Concussion**

Eight out of ten patients with a mild brain injury show some symptoms during the first week to a month after the accident (see paragraph on previous page). These symptoms are part of the normal recovery process and are not signs of permanent damage or medical complications. Like the itch of healing stitches, these symptoms are normal. The majority of patients with mild TBI have these symptoms and recover completely in a week to three months. If you are older than 40, it may take a bit longer to return to normal. Symptoms often disappear without any special treatment.

**How long will my symptoms last?**

The most rapid recovery occurs in the first week after mild TBI. Most patients will be back to normal in a week to a month. Everyone recovers differently. People under the age of 40 get better faster.

**What can I do about my symptoms?**

Some patients, who have had a concussion, find that at first it is hard to do their daily activities, their job, to get along with everyone at home, or relax. **Pace yourself** and be sure to get all the rest you need. If your symptoms get worse, or if you notice new symptoms, this is a sign that you are pushing yourself too hard. Slow down and let your brain heal.

Ignoring your symptoms and trying to "tough it out" often makes the symptoms worse. Studies show that one week of relaxing at home and then a week of gradually increasing activity after leaving the hospital is best for most patients. It is important to remember that the symptoms are a normal part of recovery and will go away on their own. Of course, we all have some of these symptoms once in a while anyway. Some of the symptoms you notice may actually have nothing to do with your concussion. The symptoms are pretty much the same as the symptoms of ordinary day-to-day stress. And just like a pulled muscle or a bruised leg, your brain takes some time to recover. You can have some trouble with work or school at first, and this is also stressful, even though it is normal. Trying to do your regular work right after a concussion is something like trying to play baseball or swim with a pulled muscle. You cannot see it, it is not really serious, but it takes some time to get better.

**Where can I go for support?**

Most people find it helpful to seek support from their friends and family after a mild TBI. They also look to medical professionals like doctors, nurses, and case managers to provide advice and support through their recovery. Unfortunately, this is not always enough. Since you or a family member experienced a mild TBI, you may feel like you need to talk to other people who have been through similar experiences. There are many support groups for people who have experienced a TBI and their loved ones. More information can be obtained from the sources listed below.

- Michigan Department of Community Health TBI website, [www.michigan.gov/tbi](http://www.michigan.gov/tbi), has many free educational materials including:
  - *Michigan Resource Guide for Persons with Traumatic Brain Injury and Their Families*, a 96-page directory of resources that provides information about TBI, the signs of TBI and a wide variety of services that are available.