

**This information courtesy of:**

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## **FATIGUE**

A nearly universal complaint that people have with head injury is fatigue. Although fatigue decreases over time, it is a very persistent problem. Many patients recover from nearly all of their other deficits, only to have fatigue prevent them from returning to their pre-injury level of activity. Many children are used to going to school all day, participating in after-school activities, coming home and doing homework. Fatigue from a head injury drastically alters their lifestyle.

### **Mental versus Physical Fatigue**

There are two types of fatigue: physical fatigue and mental fatigue. "Physical" refers to doing some sort of physical activity such as climbing on a jungle gym or swimming laps. Just after a head injury, physical fatigue may be troublesome. For example, if you're relearning to walk, the amount of effort it requires to relearn to coordinate the muscles and build up strength is going to be substantial. For most people, physical fatigue tends to go away after 6 months. What surprises people with a head injury is the mental fatigue. For example, you could spend all day playing softball with your friends, but an hour of reading a homework assignment will leave you exhausted. This is mental fatigue, and tends to go on for long periods of time. Let's use another analogy. Think of owning a car that you can only fill with half a tank of gas. You can now only go half as far as you used to. When you run out of gas, the engine stops. With mental fatigue, it's as if the brain runs out of chemicals and just shuts down.

Why does this occur? Let's look at the brain as a big phone line system. We make a daily call from Chicago to New York City and it's a direct line. If the line breaks, you lose the connection. The phone company is prepared, however; they realize that phone lines break, so they've programmed their computers to reroute phone calls. As a result, a phone call from Chicago to New York may have to go to St. Louis, Pittsburgh, and then to New York. It's no longer a direct call--we've added 3 more connections. More time and energy is needed to send the same information. This analogy seems to make sense. People with a head injury tell me that it takes much more effort to get the same answer.

Does fatigue get better over time? For most, it does. Does it go away completely? For most, it does not. At first, people may be active for 3 hours and then they're beat. Eventually, they can be active for 4 hours, then 5 hours, then 6. I have many people who finally work 8 hours a day, but are extremely tired in the evenings and need the weekend to recover. If you become physically ill with a cold, or have surgery, this fatigue disorder briefly comes back with a vengeance.

## What Can I Do?

Most people tend to get fatigued in the afternoon, generally around 2:00 or 3:00. One suggestion--if you're going to do something that is stressful or hard, do it in the morning. Your mind will be a lot clearer in the morning and less prone to making mistakes. Realize that fatigue will affect your memory. If you learn information when you are fresh, it is more likely to stay with you. If you stay up late studying for a big exam, you will have more problems trying to recall this information the next day.

Exercise improves your ability to think. This seems pretty obvious, but for individuals with head injury, it becomes crucial. If your doctor has cleared you to do exercise, you should make a conscious effort to do it. Why? Even though the brain weighs less than 5% of the entire body, it uses 30% of the oxygen in the body, and probably the same amount of glucose (which is the energy that runs your body). If we use a car analogy, a clogged air filter and gunked up carburetor will not allow full power. With exercise, you get more oxygen into your blood system. Also, for people who have chronic pain syndromes, some types of exercise are very beneficial. For example, swimming is a very good exercise for people who have neck or back pain. Always talk with your doctor about what exercise works best for you.

Diet is another important consideration. When I say "diet", I don't necessarily mean to lose weight. It's important to eat 3 good meals a day. In our rushed society, we'll eat a doughnut, have some coffee, and run off to work. That's not a very good diet. The sugar that you get from a doughnut or the caffeine from coffee gives you a brief burst of energy, but that energy doesn't last. We've all heard of a "sugar buzz." Children are very prone to this. The same thing occurs in adults. The problem with sugar is that you "roller coaster"--you get that burst of energy but you come crashing down. The trick is to have a constant supply of energy to the brain.

You need to gradually increase your stamina. Going from no school to being in school all day is very stressful. For the head-injured individual, this is nearly impossible. You must give the brain time to build a tolerance to fatigue. A common approach to this problem is by gradually returning to school. You might start off with 1 to 3 hours. Gradually, add hours only as you can tolerate it. If you can't at first return to school, begin participating in some activity that helps you increase your stamina. This will help decrease fatigue and will improve self-esteem.