

Concussion for Website

The term concussion has been getting a lot of press recently. Athletics, both amateur and professional, have been scrutinized regarding their role in contributing to this all too common injury. While the diagnosis of concussion is becoming more accurate and frequent, the medical treatment has not progressed significantly. Taking the athlete out of the game, or having them refrain from activity, may reduce the risk of another concussion occurring or the repercussions associated with the injury. What about the long lasting effects caused by the concussive injury, now termed post concussion syndrome? Movies such as "Concussion" are starting to bring attention to these long-term negative effects of continual minimal concussive episodes on cognitive, emotional and functional capabilities.

A concussion happens when a force or a whiplash type injury occurs with a force great enough to cause the brain to bounce against the inside of the skull. If the force or momentum is great enough the brain may actually bounce off one side of the skull then crash into the opposite side. The brain is cushioned inside the skull by the surrounding cerebrospinal fluid (CSF) and suspended in connective tissue called the cranial dural meningeal system. When a concussion occurs there is a potential for tearing of blood vessels, meningeal tissue, pulling and stretching of nerve fibers and bruising of the brain itself.

Often the blow or disruptive force results in microscopic damage to the brain cells without obvious structural damage being noted. In severe cases, the brain tissue can swell. Since the brain cannot escape the rigid confines of the skull, severe swelling can compress the brain and its blood vessels, limiting the flow of blood and CSF. Without adequate blood flow, or CSF, the brain does not receive the necessary amount of oxygen, glucose nor can it remove toxins and waste efficiently. The amount of brain swelling and neurological tissue damage after a concussion will amplify the severity and symptomatology associated with the injury.

The piece that is usually missed by standard medical professionals is that if there is enough or consistent forces that can traumatize the brain, then there is often cervical (neck) trauma in the form of a whiplash type injury concurrent with the concussion. This fact is why many concussion symptoms continue for years and may not resolve completely. The cervical whiplash syndrome and concussion syndrome share many of the same physiological sequela and symptomatology.

The warning signs of head and neck injury are the following:

- Pain: Constant or recurring headache

- Motor dysfunction: Inability to control or coordinate motor functions, or disturbance with balance
- Sensory: Changes in ability to hear, taste or see; dizziness; hypersensitivity to light or sound
- Cognitive: Shortened attention span; easily distracted; overstimulated by environment; difficulty staying focused on a task, following directions or understanding information; feeling of disorientation, confusion and other neuropsychological deficiencies.
- Speech: Difficulty finding the "right" word; difficulty expressing words or thoughts.
- Emotional: Heightened emotional states or increased reactivity. Anxiety, uncontrolled emotions and depression.

Physiological affects of head and neck injury

- Decreased blood flow in, around and out of the brain
- Decreased flow of CSF in, around and out of the brain
- Increased intracranial pressure
- Decreased intracranial compliance - damage to the sutural system of the skull and lack of pliability in the cranium
- Tearing and scar tissue formation in the dural meningeal tissue
- Change in neurological and neurotransmitter threshold responses
- Damage to nerve tissue and conduction of impulses
- Build up of toxic material in the brain

According to the University of Pittsburgh's Brain Trauma Research Center, more than 300,000 sports-related concussions occur annually in the U.S. A study conducted by McGill University in Montreal found that 60 percent of college soccer players reported symptoms of a concussion at least once during the season. This is just the reported number, since many concussions go undocumented or shrugged off by the injured party.

The sooner proper treatment is initiated the quicker the damage can be reversed and the lesser the chance that long term side effects will occur. While medical professionals are becoming more vigilant in their diagnosis of concussion they are not trained in properly evaluating the cranium and cervical spine for non-pathological damage. Chiropractic has long recognized the global effects that damage to the spine and nervous system has to the health and well-being of the individual. Chiropractors have always recognized that there are many forms of irritation to the nervous system that goes undetected and pervasive until recognizable symptoms occur. Concussion and whiplash type injuries have specific neurological and structural components that chiropractors have been working with for years. Evaluation of the

spine and cranium (head) by an experienced chiropractor is paramount in any situation where a concussive or whiplash type injury is suspected. Even if no evident symptomatology is present a thorough evaluation can reveal underlying silent damage that is already decreasing a person's functional ability.

We at Wellesley Chiropractic Office have over 35 years of experience in evaluating the spine and cranium for neurological, meningeal and structural imbalances that can cause pain and dysfunction or impair normal functional capabilities. Here is the standard of care for concussions from the NFL.

"The first step is rest. During this time, in addition to avoiding physical exertion, the player is to avoid electronics, social media and even team meetings until his returns to his baseline level of signs and symptoms. The next step introduces light aerobic exercise, which takes place under the direct oversight of the team's medical staff. If aerobics are tolerated, the team physician will reintroduce strength training. The fourth step includes some non-contact football-specific activities, and the fifth step, which is clearance to resume full football activity, comes only after neurocognitive testing remains at baseline and there are no recurrence of signs of symptoms of a concussion."

Don't wait and accept rest as the only treatment for these type of injuries. Be proactive and preventative. Call us today for an appointment.