

Whiplash

Whiplash, also known as CAD - Cervical Acceleration Deceleration injuries, or WAD whiplash associated disorders, is the most common cause of serious spinal injury to the neck. The most common cause of whiplash is a motor vehicle accident and 80% of car accidents happen at less than 25 mph. The most common scenario for whiplash from an auto accident is getting hit from behind. When your body is thrown forward, the head is thrown backward, causing a violent hyperextension of the neck. Let's call this phase 1. Then in phase 2 the head is thrown forward in the rebound hyperflexion. This happens because your car is slowing down in the muscles on the front side of the neck undergo a stretch reflex.

Most of the damage that occurs from whiplash injury in rear end auto collisions is to the deep anterior neck muscles. These muscles undergo strain, which is a micro-tear. At the same time, certain ligaments in the neck are sprained; namely, the anterior longitudinal ligament and capsular ligaments which are normally responsible for maintaining the ideal "C" curve of the neck. In more severe cases, you can get tearing of the fibers that keep your disks in place and even fractures to the vertebrae themselves. In all cases, the symptom that can last the longest is myospasm and myofascial pain from splinting and guarding of the muscles in the lower cervical and upper thoracic regions. Myospasm basically means the muscle is in spasm and myofascial pain means the muscles have become more sensitive and, therefore; relay stronger pain signals to the brain.

When the auto accident is a head on collision it is more common to experience whiplash of the upper cervical spine. Upon impact, the head and body are thrown forward, followed by a rebound in hyperextension. This mechanism of injury can be even more serious, because the muscles at the top of the neck and the base of the skull can undergo severe strain. This is particularly problematic because the muscles of the base of the skull, known as the suboccipitals muscles, have lots of nerves going through them. When these muscles go into a splinting reaction they place compression on these nerves and even the local blood vessels. This results in severe tension headache, or even migraines. The ligaments and joints of the upper neck also undergo severe sprain. This will cause a greater degree of joint irritation, joint dysfunction (subluxation) and possible fractures to the posterior elements of the cervical vertebrae. For this reason treatment time for whiplash from a head-on collision can take much longer.