Whiplash/Car Wreck Treatment (AKA Whiplash Associated Disorder [WAD], Cervical Acceleration/Deceleration Injury [CAD])

The following information is taken from Dr. Pace's whiplash book. For a free copy please call (504) 305-6565. (Offer limited to residents of the greater New Orleans LA area only)

If you've been injured in a car wreck you've got several options for treatment.

The types of practitioners who commonly treat whiplash include chiropractic doctors, medical doctors, osteopathic doctors, physical therapists, occupational therapists, acupuncturists and massage therapists.

Each of these professions help people with a variety of health complaints, but the question to be answered is this: which has been proven by scientific research to be the best treatment for whiplash injuries.

And for this question there is only one answer: Chiropractic.

Chiropractic doctors are primary care health care providers licensed by each of the 50 United States and by the governments of many other nations (including Canada) to diagnose and treat conditions of the human body without the use of drugs or surgery. The primary method of treatment provided by chiropractors is known as spinal manipulation. The primary goal of spinal manipulation treatment is to restore the position and function of the joints of the spine.

The primary cause of neck and back pain from whiplash is restricted motion in the spinal joints. In the process of the whiplash injury, shear effect to the spine causes minor changes in the position...
of joints in the spine, as well as major changes in the function of the joints of the spine, resulting in restricted motion of the joints, which causes pain, as well as the other symptoms.

While drugs may provide temporary relief of pain (until the effect of the drug wears off), they do nothing to correct the damage that the whiplash caused. And while the other treatments mentioned do have merit for a variety of ailments, none have been shown to provide any long-term benefit for whiplash injury.

A study reported in the Journal of Orthopaedic Medicine summarized it this way:

“Conclusion: Whiplash injuries are common. Chiropractic is the only proven effective treatment in chronic cases.”

This study was conducted by a team of medical researchers at the University Department of Orthopaedic Surgery in Bristol, England. The objective of the study was to determine which patients with chronic whiplash benefit from chiropractic treatment. The study consisted of two groups of patients. Group 1 consisted of patients with isolated neck pain and restricted range of neck movement. Group 2 consisted of patients with neurological symptoms or signs and restricted range of movement.

In both groups, chiropractic was the only method of treatment that was proven effective. (1)

This study followed another study from the same university that showed that although 43% of whiplash victims suffer long-term symptoms for which no conventional (medical) treatment has proven to be effective, 93% of patients improved following chiropractic treatment. (1)

Another study compared the effects of chiropractic treatment to the drugs Vioxx and Celebrex, and acupuncture in the treatment of chronic spine pain, and followed up one year later. An earlier study showed that after 9 weeks of treatment, chiropractic spinal adjusting was more than 5 times more effective than the drugs Celebrex or Vioxx. Follow up after a year showed that the therapeutic benefit of chiropractic spinal manipulation was largely stable for at least a year, much better than either drugs or needle acupuncture. (2)

The authors of this study also stated that in cases of mechanical spine pain (such as whiplash) only about 15% of patients are given a definitive diagnosis. What this means to you is if you’ve been in an accident and have spinal pain, and have been to a doctor other than a chiropractor, there’s an 85% chance that you’ve been misdiagnosed, and as such, you probably haven’t received proper treatment.

What If I Don’t Get Treated Properly?

Since 1956 more than 55 studies have followed the long-term effects of whiplash injury. (6,7)

According to this huge volume of work, only about 35 to 50% of whiplash victims ever fully recover, leaving between 50 to 65% who never recover completely. (6)

For example, one study found that 43% of patients will suffer long term symptoms following whiplash injury, for which no conventional treatment has proven to be effective. (8)

Why? Perhaps it’s because those unfortunate people have either been diagnosed or treated improperly.

Another study found that 85% of patients in car wrecks are given a wrong diagnosis, meaning that about 85% receive improper treatment. That easily explains why such a huge number never fully recover from their whiplash injuries.

In the same study that showed that 43% of whiplash victims suffer long-term symptoms, they also found that 93% of patients improved following chiropractic treatment. (8)

So what happens if you don’t get proper treatment from a chiropractic doctor? Will your injuries heal without treatment? It’s possible that any given whiplash injury could completely resolve itself over time without any treatment whatsoever.

Possible, but not probable.

Since it’s impossible to tell whether your injuries will heal themselves, the prudent thing to do is again look at the available research to see what happens to most people who get improper treatment or no treatment at all.

An English study followed 3047 hospitalized acute trauma patients ages 18 to 84, 12 months after injury. At 12 months after injury, 62.7% of these individuals still had pain from their injury, and most had pain in more than one area of the body. Zero to 10 pain scales averaged a pain level of 5.5 at follow up.

The author’s conclusions: “Most trauma patients have moderately severe pain from their injuries 1 year later.” (9)

Another study found a relationship between a history of neck injury in car wrecks and moderate to severe headaches. The authors stated “Our cross sectional analysis suggests that neck pain and severe headaches are more prevalent in individuals with a history of neck injury from a car collision.” (10)

Additionally, this study showed that neck pain and headaches are not the only long-term pains from whiplash. The study also looked at other conditions that may be related to a history of neck injury from whiplash. The authors looked at allergies, breathing, cardiovascular, and digestive disorders, hypertension and low back pain. They found that people who had previous whiplash injuries had a greater chance of suffering from all of the above disorders, except hypertension. The instance of many of these disorders was close to twice as frequent as those with no history of neck injury.

Plus, people who had suffered neck injuries and who suffered from one of these disorders reported that the impact of the disorder was greater than was reported by those without neck injury.

Additionally, they found that the general health of those having been injured was significantly lower than in those who had not. (10)
During the collision. Low speed collisions can occur in parking lots. If the patient was turned to see if a space was available, neck posture prior to impact. Was the head turned? This can occur if the patient was looking at the rear view mirror while driving.

There are a lot of factors that determine the extent of injury following a low speed whiplash. One of these is the degree of force required to cause injury. The spinal cord and nerves that go between these structures are also irritated, resulting in pain and changes in balance (e.g. dizziness, poor balance, and position sense). Over time, the patient may have significant effects on their quality of life.

Whiplash pain can be much different from other types of injuries. When a car accident is severe, the pain will come on by the shearing forces of the whiplash injury by restoring the normal motion that is required for normal function. And normal function generally equals no pain.

References

7. Croft, A. (Can you guage injury risk or severity from the amount of vehicular property damage in motor vehicle crashes?). Dynamic Chiropractic. Volume 20, Issue 26 (December 16, 2002).

Different Doctors and Different Approaches to Care

Whiplash injuries are a significant public health problem. Not only do they cause significant pain and time off from work and leisure activities, there is also a general effect on quality of life. A study in the European Spine Journal compared female patients with whiplash of the neck to patients with low back pain and another group with rheumatoid arthritis.

The researchers looked at pain levels (how high or low) and how quality of life was affected. In the whiplash group, the pain levels were the highest. Overall health status was also more affected in the whiplash group, with changes mostly in social issues, vitality, emotional, and mental wellbeing.

A study in the journal Spine looked at how medical and chiropractic doctors differed in their approach to patients with whiplash. Medical doctors were more likely to have negative feelings about treating patients who have whiplash. They were also more likely to believe that there was nothing physically wrong with many patients with chronic whiplash. In terms of treatment, most medical doctors believed that nonsteroidal anti-inflammatory drugs (NSAIDs) and muscle relaxants were effective in acute whiplash.

This is despite the significant scientific evidence of problems of safety with long-term consumption of NSAIDs (e.g. stomach bleeding). In addition to questions of safety, there is virtually no evidence that these types of medications actually improve patients’ pain or overall quality of life.

The chiropractic approach to whiplash is much different from that of medical doctors. First there is a general acceptance that the injuries are real and are not made-up by the patient. Biomechanical study of auto accidents confirms the injuries are real and mostly consist of sprain and subluxation of the joints of the neck. The spinal ligaments, muscles and disks are all affected in whiplash injury. When trauma to these tissues occurs, the sensitive nerves that go between these structures are also irritated, resulting in pain and changes in balance (e.g. dizziness, and position sense). Over time, the patient may have significant effects on their quality of life.

One study of chiropractic care in the journal Injury looked at the results in patients with chronic (i.e., long-term) whiplash injuries which occurs in about 43% of cases. Twenty-eight patients were studied and of these 93% (n=26) had improved following chiropractic treatment.

There are important differences in your treatment when you compare the chiropractic to the medical approach to whiplash.

Why Does My Neck Hurt So Much But My Car Only Got a Dent?

Whiplash pain can be much different from other types of injuries. When a car accident is severe, the pain will come on right away. If the injury produces a mild or moderate sprain, sometimes it takes a few days for the pain and inflammation to reach its maximum. Sometimes it is stiffness that is the prominent symptom and the patient notices this in the first few weeks after the accident. The delay in pain is often seen in low speed collisions where typically there is very less damage to the vehicles.

There are a lot of factors that determine the extent of injury following a low speed whiplash. One of these is the neck posture prior to impact. Was the head turned? This can occur if the patient was looking at the rear view mirror during the collision. Low speed collisions can occur in parking lots. If the patient was turned to see if a space was available.
Long-Term Results of Whiplash

Besides the position of the patient prior to the collision, the speed and amount of vehicle damage are sometimes good criteria for the severity of the trauma. However, it may not be in many cases because of crumple zones. Cars are built with crumple zones. These areas are crushed during the collision and absorb the energy of impact. In some low speed collisions, there is less crumple and more of the force is transmitted to the occupants. This is but one reason why vehicle damage won't always equate with the spinal damage.

Another factor in whiplash is whether the head-rest was properly positioned. A proper head-rest should be close to the back of the head and its high point slightly above the top of the head. The reason for the high position is that in a rear-end collision, the patient who is being hit will rise slightly with impact. If the head-rest is too low, then the neck will bend around it like a fulcrum causing even more injury. The same thing happens if the seat is reclined too far and the head whips backwards before hitting the head-rest.

Because symptoms can come on slowly and minor vehicle damage is not a good indicator of injury, a thorough examination is required. It is important to be checked by a competent health care provider after any motor vehicle collision.

**Torticollis and Whiplash**

Torticollis is a condition where a joint or disk is injured and you can't move your neck. Sometimes the head is bent or turned a little to one side. And sometimes you're straight but can barely move in any direction. This type of problem is usually caused by a disk injury. Whiplash can cause this condition or it can come on by sleeping in an awkward way.

The spine is meant to move a lot, especially the neck. This is so we can quickly look around, above, and below. When the spine cannot be moved without intense pain, it's a sign of both a joint and nerve problem. The nerve may be pinched or compressed, stretched, or irritated by chemicals from inflammation/swelling. To protect the nerve, the body puts a splint on it with muscle spasm. This keeps you from moving your head.

If the joint injury is reduced, by aligning the bones of the spine, the healing and scar tissue will stabilize the area in alignment. If the joint is left out of alignment or is hypermobile, this can lead to future degeneration. To get the joint moving and functioning normally again, you need to have motion through the joint adjustment, and exercises to keep activated. One study showed that patients who wear foam collars after whiplash, do worse than patients who were actively mobilized without collars. It may at first seem counterintuitive to move when pain is there, but it's all about moving within your pain tolerances. Usually small motions are still preserved. Instead many patients wear collars or do not move their neck enough. This causes the muscles to become more inflexible and contracted. Overtime it can lead to substantial weakness and even atrophy (wasting away).

So even in the early stages of a whiplash, when the neck can barely move at all, small movements that are not painful are encouraged. The specific adjustment will reduce the irritation to the nerve that is signaling the muscles to spasm. Once the nerve is freed, then the muscle will usually release. Greater ranges of movement will follow as the body allows. This should not be hurried because the nerve and disk is at risk for re-injury in the very early stages of healing.

Medications and surgery will not correct the alignment of the spine. When the joint is sprained, it needs to be re-aligned to reduce the tension on the ligaments and disk. We can guide you through this process so the range of motion returns quickly.

**I'm Waking Up With A Stiff Neck!**

Life is stressful enough during the day that it seems truly heartbreaking that many of us cannot get the restorative sleep we need each night. Tossing and turning causing insomnia is an epidemic in the U.S., but worse, some of us wake up with actual pain and stiffness. What a way to start the day.

Sometimes it's the mattress being too soft or unsupportive. Or maybe the too thick hotel pillow has gotten your number. Sleep posture is very critical to spinal health. The neck has a forward arch, and this has to be preserved for there to be maximal relaxation of the spinal cord and nerves. Also the head needs to be supported when turning to side sleeping. The pillow needs to be thick enough so that the head does not fall towards the shoulder, stretching the muscles and delicate nerves on the side of the neck.

You need to rest your spine each night so that the tissues can repair and heal. It is important that muscles are able to relax, and that the bones of the neck are not placed into abnormal postures. Ever fall asleep on an armrest of a sofa, or in a car or plane? Most of us have experienced the stiffness that comes with this. But some of us have spiral bones that are already sprained and displaced from old injuries, which means good sleeping posture is even more critical. Simply a minor change from our usual bed or pillow is enough to make for a stiff neck in the morning. Or perhaps you thought a stiff neck in the morning was normal because it has gone on for years.

One of the more common problems for morning stiffness is neck and body position. Stomach sleeping is a definite no. In this position, the neck will be twisted excessively. The best positions will be side lying with adequate head support, or flat on the back with a proper neck-support pillow. These types of pillows allow the cushion to push upwards into the curve of the neck, while the head is cradled. Usually pillows are simply too thick and these can cause the neck to be in a forward stressed position which stretches the nerves and spinal cord.

If you're waking up with a stiff neck, then it could be how you're sleeping or whether your pillow is right for good neck sleeping posture. Discuss with a doctor of chiropractic your sleep habits, and which type of pillow is best for maximal rest.

**Long-Term Results of Whiplash**
What is whiplash? Whiplash occurs when a person’s head moves backward and then forward suddenly with great force. This injury is most common following a rear-end car collision. It can also result from physical abuse, sports injuries, or amusement park rides. Whiplash results when the soft tissues (the muscles and ligaments) of your neck extend beyond their typical range of motion. Your symptoms might not appear for a while, so it’s important to pay attention to any physical changes for a few days following any accident. Whiplash is thought of as a relatively mild condition, but it can cause low back pain due to the rich blood supply. The ligaments such as disks hold the joints of the neck together keeping the nerves from being pressed upon and stretched. These are the structures that are critically injured during whiplash. The muscles that contract to protect the joints from moving too much are generally less of a problem than when the ligaments are injured. A recent study (BMC Musculoskelet Disord 2006;21:103) showed that after whiplash, the strength of the neck ligaments is further reduced. This means that you are more susceptible to getting injured if you previously suffered a trauma.

To detect ligament injuries you can look at MRIs immediately after the trauma. In many cases they can show small tears or the inflammation and swelling that goes with tears of these important structures.

You can also have stress x-rays taken in the positions of forward and backward bending. These types of x-rays can show how ligaments have been traumatized and are allowing the bones of the neck to move too much. When this increased motion is severe, this is called instability. Some newer MRI machines can scan in different positions so that the tears and their motion effects are seen with one test. Some people may find the MRI scanner to be a bit restrictive or claustrophobic. X-rays are usually the most practical and least costly choice.

A neck injury such as a pulled muscle or a "knot" in the muscle is something we’ve all experienced. These little aches and pains usually go away on their own, or with a little massage from a loved one. But sometimes the neck injury is more substantial, such as in a whiplash or sports injury. In these cases, the ligaments such as the disk can be injured, and the nerves can be inflamed and irritated as well.

The long-term course for neck pain is not good. Patients continue to suffer years later. One study looked at outcomes after five years and found that about 50% of patients continued to have pain and disability.

When the ligaments and muscles of the cervical spine are injured, the patient may guard their movements and not use certain muscles. This can lead to muscle weakness over time. As the neck muscles go, so goes the rest of the spine, or at least that’s what recent research shows. The investigators looked at a specific exercise that used the core trunk muscles. They followed the neck pain patients for two years and found that those with neck pain tended to get trunk muscle dysfunction, and eventually low back pain.

Following traumatic injuries to the neck, it is important to have a proper examination including x-ray. Getting an accurate diagnosis is the first step to getting you the treatment you need. One study has shown that early intervention (within 4 days) in whiplash injury gave patients more relief, when compared to delayed (14 days) treatment.

As discussed above, many patients become chronic and have long-term pain after neck injuries. Others will develop secondary low back pain years down the road. Because of these long-term effects, it is important to treat neck injuries in a serious manner. Ice will usually not be sufficient. These mechanical types of problems are also not correctable through medications and neck collars.

Specific chiropractic care following sprains to the neck may move the joints into better alignment and ease tension on the tissues. Mobility disorders such as limited range can also be improved with specific adjustments. As the joints begin to move more normally, exercises can be added to improve strength and range of motion. By treating neck problems appropriately and early on, the patient will be afforded the best chance for long-term success.

Your Ligaments

Most people who get a whiplash-like injury think it is caused by a problem in their muscles. It’s easy to see why this may be the case since muscle pain following car accidents is so common. Deep pain and even spasm can occur after severe trauma resulting in daily pain and even headaches. Since our 10-12 pound head is attached to our necks, by muscles that go into the shoulder region, whiplash can feel like a muscle pull and taking muscle relaxants seems a reasonable approach.

Although tears of muscles fibers do occur in whiplash, these can heal rather quickly due to the rich blood supply. The ligaments such as disks hold the joints of the neck together keeping the nerves from being pressed upon and stretched. These are the structures that are critically injured during whiplash. The muscles that contract to protect the joints from moving too much are generally less of a problem than when the ligaments are injured. Some newer MRI machines can scan in different positions so that the tears and their motion effects are seen with one test. Some people may find the MRI scanner to be a bit restrictive or claustrophobic. X-rays are usually the most practical and least costly choice.
severity of signs and symptoms:[3]. Grade 0: no complaints or physical signs. Patients suffering from “whiplash” or “whiplash-associated disorders” | Find, read and cite all the research you need on ResearchGate. cervico-cranial junction based on the mechanism of acceleration and deceleration of the head impact. Discover the world's research. 17+ million members. 135+ million publications. 700k+ research projects. Join for free. No full-text available.