



BACK & BODY
M E D I C A L

Back and Neck Pain Related to Auto Accidents

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Individuals who have been in car accidents often have injured backs or necks and, as a result, may suffer pain. This pain can be long term and chronic or short term, depending on the type of injury sustained and its severity. Here, we'll break down what you need to know about back and neck pain related to auto accidents, from the causes to the types of back and neck pain commonly experienced after a collision to treatment options.



Why Do Auto Accidents Commonly Cause Back and Neck Pain?

Individuals who have been in car crashes commonly experience whiplash, which is caused by the impact experienced in a car collision. To understand the mechanisms of whiplash, it is first important to understand that the human body has two large parts: the trunk and head. Each of these pieces is connected by the cervical spine, but they are separate inertial masses, meaning that they have different resistances to changes in physical motion. Upon impact in an auto accident, the vehicle tends to accelerate forward rapidly. The trunk of the body will move forward, as well, while the head briefly remains in its original position. This causes an initial straightening of the neck, followed by an extension. This can cause the ligaments in the neck to overstretch and even tear. Furthermore, as the neck is propelled into flexion, it places a significant amount of stress on the joint capsules and ligaments that are responsible for holding our bones in place. Because this entire whiplash process occurs in under a second, it is impossible to brace yourself for impact and prevent injury. Whiplash is commonly experienced in all types of auto accidents. However, research shows that whiplash is especially common in rear-end collisions. Furthermore, studies have shown that women are more likely to suffer from whiplash.

Understanding the Signs and Symptoms of Whiplash

If you think that you may be suffering from whiplash, it is critical to seek immediate medical attention. Symptoms of whiplash include:

■ **Cervicogenic:** Cervicogenic is the medical term to refer to a neck-related headache. Many patients describe this as a headache at the very base of the skull that radiates toward the forehead. This type of headache is often caused by injury to a facet joint, upper cervical disc, or joints situated higher up in the back, known as the atlanto-occipital or atlanto-axial joints.



■ **Arm pain and arm heaviness:** Arms that feel sore or heavy can also be an indication of whiplash. In some cases, this pain and heaviness can be a result of nerve compression because of a herniated disc.

■ **Tightness in the neck:** Tightness in the neck and a decreased range of motion are among the most common symptoms of whiplash.

■ **Lower back pain:** Lower back pain is quite common in individuals who have suffered from whiplash, and it can often be caused by injury to the facet joints

of the lower back or sacroiliac joints, or to the discs between your spine's vertebrae.

■ Cognitive difficulties: In some cases, whiplash can cause traumatic brain injury, or TBI. It should be noted that the head does not have to actually hit anything to cause TBI. If you are experiencing any cognitive difficulties following an accident, such as memory problems or difficulty speaking, it is critical to seek out immediate medical attention.

In order to diagnose whiplash, your attending physician will ask you to describe your symptoms and the accident. The vast majority of patients will recover from whiplash in less than 12 weeks. However, in some cases, patients might need more detailed testing and comprehensive treatment in order to make a full recovery.

■ What Are the Different Causes of Back and Neck Pain?

Whiplash doesn't just refer to one specific type of pain. Rather, whiplash refers to a range of injuries that can occur during an automobile collision. Keep in mind that the cervical spine is quite complex. It contains bony structures, ligaments that hold bones together, tendons that attach bones to muscles, nerves, discs, and a vast variety of other types of connective tissues. Examples of injuries sustained because of whiplash trauma include:



I Facet joint pain: The most common type of pain following a car accident, facet joint pain is typically localized to either the right or the left of the central area of the back of the neck. This kind of pain is incredibly common among people who have experienced whiplash, with over 90 percent saying that they experienced neck pain.

I Disc injury: Disc injury is also an incredibly common cause of neck and back pain following a car accident. Discs are found between the vertebrae of your spine, and

I Muscle strain: As the neck violently snaps back during a whiplash trauma, it can seriously strain muscles in the back and neck. This can cause severe pain in the weeks following the accident, as well as stiffness and a restricted range of motion.

I Lower back pain: Though whiplash typically is more often associated with upper back pain and neck pain, it can also cause lower back pain, particularly in rear-end collisions. In fact, lower back pain is found in nearly half of individuals who have been in rear-end collisions. This is because the lower back is severely compressed during whiplash trauma, which can do damage to the muscles.

Last but not least, it is important to note that there is not necessarily a relationship between the severity of the collision and the severity of pain or injury. Many people assume that the more damage that is done to the car, the more serious back and neck injuries a person will have sustained. In fact, the opposite is often true. When a car has been significantly damaged in an accident, it means that it has absorbed much of the impact of the collision and the individuals in the car have absorbed less of the impact.

When less damage is done to the car, the individuals in it absorb more of the shock, resulting in injury. Studies show that even seemingly minor collisions in which the vehicle sustains only minimal structural damage can result in serious injury, including alterations of segmental motion, alterations of joint endplay, postural distortions, and alterations of normal tissue textures, all of which can cause significant pain and swelling. While not all individuals will react the same way to the same velocity of collision, research clearly shows that even a collision that occurs at 5 miles per hour can result in serious injury. You can never assume that you won't have any serious injuries because much damage hasn't been done to your car.

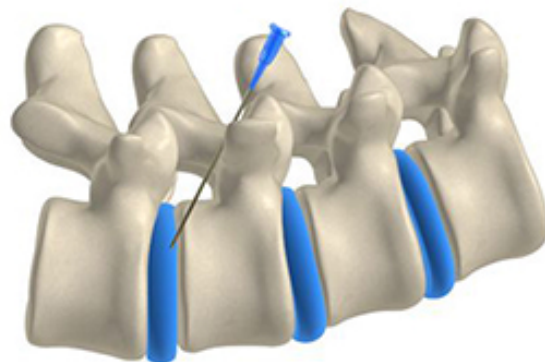


How Can Back and Neck Pain Be Diagnosed After an Auto Accident?

In order to be effectively treated following an auto accident, a doctor will need to take the time to properly diagnose the problem. This can be done using:

- **X-ray imaging:** If a medical professional suspects that you have fractured a bone somewhere in your neck or back or that your spine isn't stable following an auto accident, it is likely that you will be sent for x-rays.
- **Magnetic Resonance Imaging (MRI):** An MRI is a very useful tool that can be used for diagnosis following an auto accident. If a medical professional suspects any kind of disc herniation or disc injury or has reason to believe that a nerve or the spinal cord has been compressed because of the accident, it is likely that you will be sent for an MRI. MRIs can also be very useful in helping your doctor determine whether you have damaged any ligaments in your neck, as when ligament damage has occurred, vertebrae will often shift forward or backward. The extent of this shift will help your doctor ascertain the extent of the damage.

- **Discography:** A discography entails an injection into the disc to determine if it is injured and somehow contributing to pain.



Lumbar Disc Discography

Your doctor may order one of the above diagnostic tools following an auto accident or several of them. This will depend on the type of pain you are experiencing, as well as its severity and any swelling or bruising.

I How Can Back and Neck Pain Be Treated After an Auto Accident?

First, if you are experiencing back or neck pain following an auto accident, it is critical to seek medical attention. Furthermore, the specific cause of pain can often only be determined with an x-ray or MRI. In addition, even if you don't experience pain following an accident, it doesn't necessarily mean that you aren't hurt. For example, even a minor impact may limit an individual's neck mobility or cause a patient to change posture. This can cause small joints in the spine to wear out or degrade. The bottom line is that even a seemingly minor impact can have major effects, so it is important to understand your treatment options.

When treating whiplash, it is important to note that your recovery time will vary significantly depending on how serious your whiplash injury is. If you have whiplash, there are several things you can do yourself to ease the pain and facilitate a speedy healing process. This includes:

I Ice your neck or back: Applying ice to your neck can help to reduce pain and swelling significantly. Ideally, you will want to begin applying ice to the injury as soon as possible following the auto accident. Apply ice for 20- to 30-minute

intervals every three to four hours for at least two days after the accident, or as recommended by a medical professional.

I Add support: A neck brace or collar that adds support can limit your mobility and, therefore, help reduce pain following an accident. However, keep in mind that these are not recommended for long-term use, as they can actually weaken your muscles. Always talk with your doctor before using any kind of neck brace or collar to see what he or she recommends, and never use them for longer than is advised.



I Take painkillers: Following an auto accident, doctors will often prescribe pain medications, such as NSAIDs. These painkillers work to reduce both pain and swelling and can help make you much more comfortable throughout the recovery period. Depending on the severity of your injury, more powerful prescription painkillers or a muscle relaxant might be prescribed.

I Apply heat: Once you've iced your neck or back and the swelling has gone down, you can begin to apply a moist heat to the sore or tender area. This will help relieve pain.

Keep in mind that when managing back and neck pain following an auto accident, it is often advantageous to seek medical attention from a reputable chiropractor. Chiropractors are often able to more effectively treat back and neck pain, as they provide manual therapies, including spinal manipulation. Several studies have shown that patients who have seen a chiropractor are more satisfied and experience faster recovery rates than patients who seek other forms of healthcare.



Whatever you do, it is critical not to rush the recovery process. Avoid any physically strenuous activities and contact sports during the recovery period. You should try to take it easy until you are able to look over both of your shoulders, rock your head all the way back and forth, and move your head from side to side without feeling any kind of pain or stiffness. Remember, if you try to push yourself before your injury is fully healed, you could end up doing serious permanent damage, so it is best to err on the side of caution.

Dealing with Chronic Pain in the Aftermath of an Auto Accident

If you experience whiplash or any other kind of back- or neck-related injury following an auto accident, you may be at a higher risk of suffering from chronic pain. While it is true that the majority of whiplash cases will heal on their own within a month, with the average recovery time around 32 days, around 12 percent of whiplash patients don't recover within six months. Furthermore, a case of whiplash, even if it heals properly, can actually increase your chance of experiencing some kind of chronic pain down the road.



Medical professionals still don't have a completely clear understanding of why a neck or back injury in an auto accident will trigger chronic pain in some patients and not others. However, recent research shows that back and, particularly, neck pain can be so severe following an auto accident because sensory input from the injured area to the brain can be so extreme that it actually leaves a kind of imprint in the sensory portion of the nervous

system. In other words, even once the injury begins to heal, the body still transmits pain signals to the brain. This phenomenon is very similar to the phantom limb syndrome that is often experienced by amputees, in which amputees will still feel a pain or itch in their limb after it has been removed.

Luckily, chronic pain can be effectively treated and managed. Again, chiropractic care is an excellent option when it comes to managing chronic neck and pain following an auto accident. Chiropractic treatment offers a treatment model that involves mobilization, manipulation, and traction, all of which are required for a back or neck injury to heal properly. In fact, a 1991 study found that 93 percent of patients struggling with chronic pain because of whiplash injury following an auto accident who had already failed to manage their pain with traditional medical care and physical therapy reported significant improvements in pain levels and overall range of motion after chiropractic care. Overall, when it comes to back and neck pain following an auto accident, chiropractic care is an excellent option.

OUR DOCTORS



David Perna DC, CCSP, CCEP

Dr. Perna uses an integrated approach to help his patients. He has focused his post-graduate studies on soft tissue techniques as well as exercise rehabilitation. This experience is why he treats professional athletes as well as weekend warriors with great success.

Dr Shan Sivendra MD

Dr. Shan Sivendra is the Director of Medicine for the Back and Body Medical group in Midtown Manhattan and has been practicing in the New York Metro Area since 1995. He is the Director of House Physicians at St. Barnabas Medical Center in Livingston, New Jersey and is working towards a certification in acupuncture.





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