

# Neck Pain

## *Resolving Neck Pain with Active Release Techniques®*

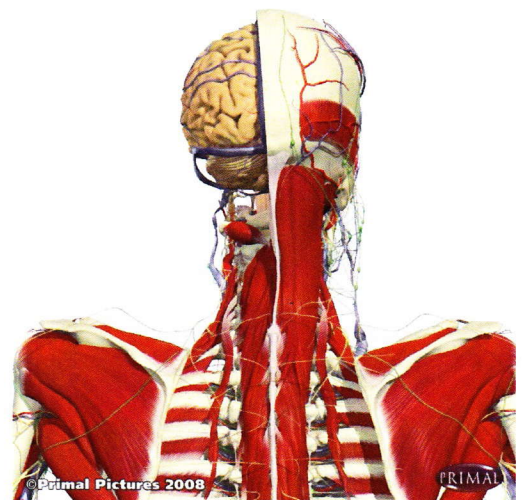
If you experience neck pain you are not alone. Neck pain is quickly becoming one of the most common reasons for visiting the doctor's office. Anyone who suffers with neck pain knows that the condition can dramatically interfere with our daily lives, often making driving, sleeping, exercising, and even concentrating very difficult. As if that wasn't enough, neck pain is often recurrent, with the same problem occurring over and over again. To make matters worse, many common neck conditions are often slow to respond to traditional types of care, often providing only temporary relief.

Now for the good news, a new treatment technique known as **Active Release Techniques® (ART®)** is proving to be a very effective method to treat many common neck problems and is helping to get neck pain sufferers back to doing their favorite activities. But before we talk about how ART® works so effectively we first need to understand how the neck becomes injured in the first place.

## **Why Does the Neck Become Injured?**

When talking about the neck, we are actually talking about the upper portion of the spinal column – the cervical spine. The cervical spine consists of 7 small bones called “vertebrae” stacked on top of each other, each of which is connected through a series of joints. These joints allow the neck to turn and bend, which is important for all of our everyday movements. By themselves, the joints of the cervical spine are not very stable, so to protect the region, a complex system of muscles surrounds the spinal column to control movement and protect the area from injury. These muscles are arranged in several layers. The deepest layers consist of very small muscles that attach into each individual vertebrae and control and protect each individual joint. The middle layers span across several joints, and the outer layer consists of the larger, more powerful muscles that run the entire length of the neck, all the way from head to the shoulders.

Not only do these muscles need to move and protect the cervical spine, but they also must control the weight of the head. The head and neck have a unique anatomical relationship in that the larger, heavier head, which weighs about 10 pounds, sits atop the thinner neck. This essentially represents an inverted pendulum where the natural tendency is for the heavier head, which represents the top of the inverted pendulum, to topple over. This places a high demand on the neck muscles to both support and control the weight of the head, while at the same time ensuring adequate movement and stability of the joints of the cervical spine. This complex process requires each muscle to be adequately strong, flexible, and coordinated, and as long as this is the case, the neck remains protected and healthy.





## How Does Injury Occur?

The health of the neck depends on a complex interaction of muscular contractions to move and stabilize each joint in our cervical spine, and properly move and position the head. If any of the muscles that surround the cervical spine become tight, weak, or uncoordinated, it will place excessive strain on the other surrounding muscles and on the spinal column itself. Over time, if imbalance in the muscles and resulting abnormal head and neck motion is allowed to continue, it can eventually develop into more severe neck conditions.

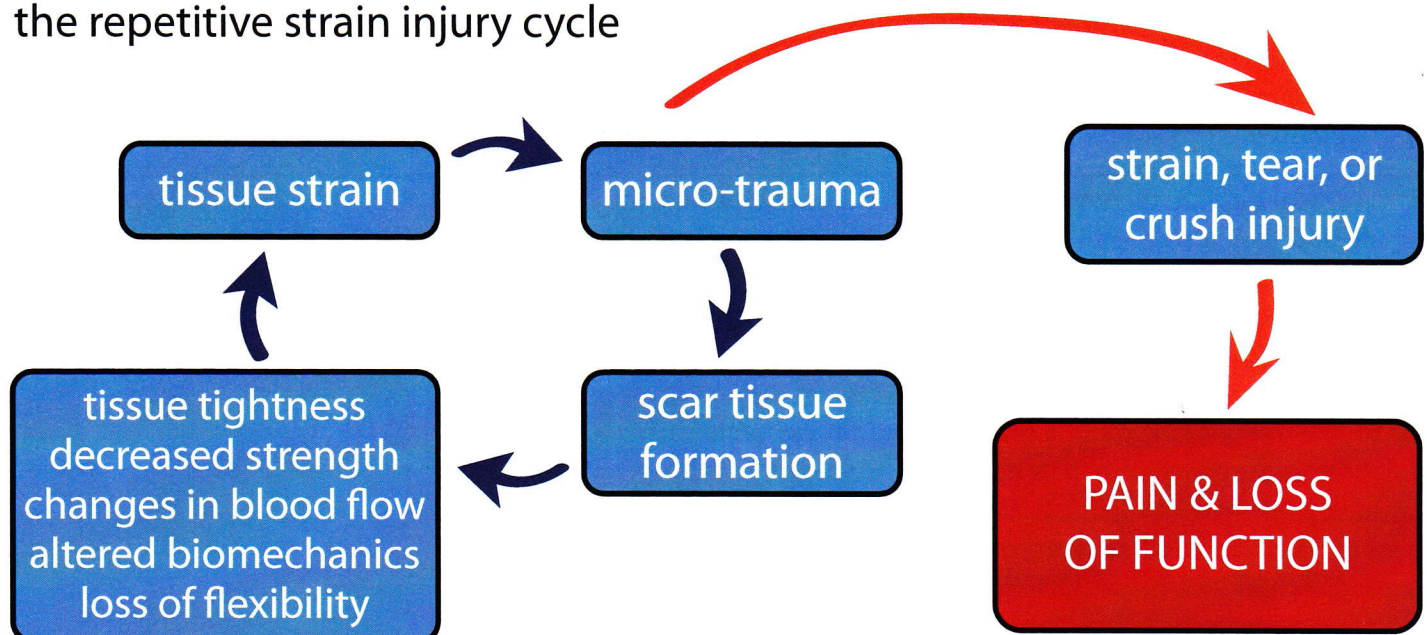
There are a variety of situations that can cause tightness, weakness, and abnormal function of the neck muscles. For example, poor or prolonged postural strain that occurs with computer use and desk jobs, repetitive use with certain sports, muscle imbalances, lack of stretching or strengthening, or previous injury such as car accidents (even minor accidents with little or no injuries that occurred at the time), can all affect the normal function of the neck and surrounding muscles resulting in excessive strain to the area.

Over time this strain can develop into what is known as **micro-trauma**. Simply stated, micro-trauma is very small scale damage that occurs in the muscles, tendons, joint capsules, and ligaments in response to small levels of strain. Initially, micro-trauma is not painful, but may be perceived as a mild ache or tightness in the muscles. Although only small, this damage still needs to be repaired. The body responds

to micro-trauma in a predictable way - by laying down small amounts of scar tissue to repair the area. Unfortunately, over time scar tissue will build-up and accumulate into what we call **adhesions**. As these adhesions start to form, they start to affect the normal health and function of the muscles and related joints. In fact, they will often lead to **pain, tightness, stiffness, restricted joint motion, and diminished blood flow**. This places even further strain on the neck muscles, which, in turn, leads to even more micro-trauma. Essentially a repetitive strain injury cycle is set-up, causing continued adhesion formation and progressive cervical spine dysfunction. At this point, pain and tightness will often start to become noticeable.

As the repetitive strain injury cycle continues the ability of the neck muscles to meet the demands placed on them diminishes. At this point, it is not uncommon for the muscles to give way and a more severe and debilitating pain occurs. In fact, many patients come into our office explaining how they have neck pain but they did not really have any major type of injury occur. When further questioned these patients almost always describe some mild pain or tightness in their neck that has been building over time. As you can see from the explanation of the repetitive injury cycle, these types of conditions build-up over time until they eventually develop into larger scale injuries.

### the repetitive strain injury cycle





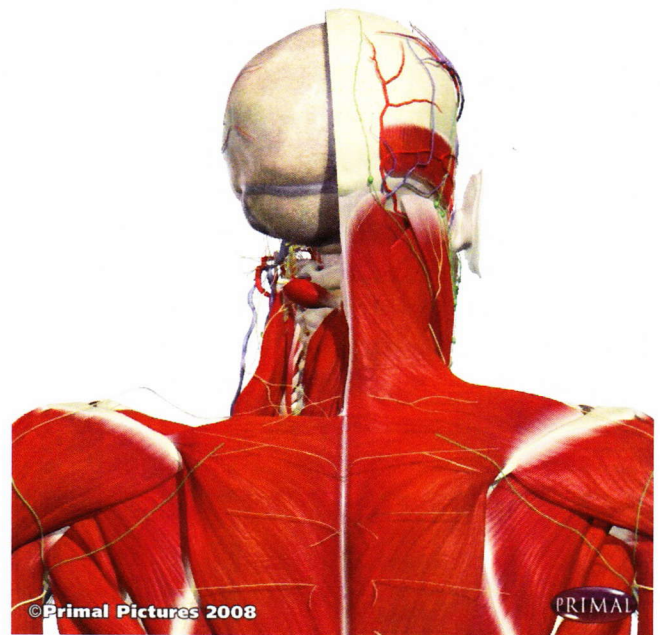
## How Can These Neck Injuries Be Fixed?

The most common approach to treating neck pain is medication to reduce inflammation, block pain, or relax muscles that may be causing headache symptoms. In the case of chronic or recurrent pain, sometimes doctors will prescribe stronger prescription medications to help fight the symptoms. In some cases, even more invasive measures such as joint blocks are used, whereby an agent is injected into the joint to block the referred pain and other symptoms.

The main reason that medications fail to provide long-term resolution for neck pain is that they fail to address any underlying problems of the muscles, nerves or joints of the neck that are causing recurrent pain. Instead, they address the symptoms of the pain and simply cover up the underlying issues in the neck, that if not addressed will continue to cause problems. As a result, many people become reliant on medication to accomplish relief of their neck pain. This is not only a temporary fix that is only covering up the problem, but it also increases risk of side-effects and dependency on the medication.

Unfortunately, muscle tightness and imbalance, scar tissue adhesions, nerve entrapments, and abnormal

joint movement can not be seen on an x-ray or advanced imaging. These problems in the muscles, joints, nerves and ligaments can however, be felt or tested with the hands of a properly skilled and experienced practitioner. A thorough history and clinical examination is usually sufficient to give the clinician enough information to diagnose the problem.



## Conventional Methods of Care.

### The Traditional Approach

In an attempt to relieve neck pain, a variety of treatment methods are used, either on their own, or in combination with other methods. Some of the more common approaches include: muscle relaxants, anti-inflammatory medications, rest, heat, ice, ultrasound (US), muscle stimulation (E-Stim), massage, acupuncture, stretching and strengthening exercises, and when all else fails, surgery. Unfortunately, most of these traditional techniques generally require a long period of time before they provide any significant relief, and in many cases provide only temporary relief from symptoms instead of fixing the underlying cause of the problem.

The main reason that these approaches are often ineffective is that they fail to address the underlying muscle dysfunction and scar tissue adhesions that develop within the muscles and surrounding soft tissues. These adhesions are binding the tissues together,

restricting normal movements, and interfering with the normal flexibility and contraction of the muscles in and around the spine.

Passive approaches such as muscle relaxants and anti-inflammatory medications, rest, ice, and ultrasound, all focus on symptomatic relief and do nothing to address the muscle restrictions and dysfunction. More active approaches such as stretching and exercises are often needed for full rehabilitation of the condition and to restore full strength and function of the muscles, however, they themselves do not treat the underlying adhesions. In fact, without first addressing the scar tissue adhesions, stretches and exercises are often less effective and much slower to produce relief or recovery from neck pain.