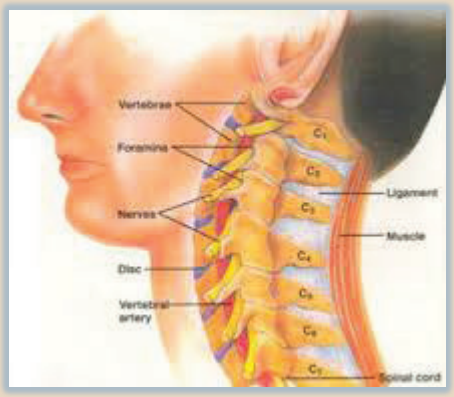
NECK PAIN REPORT

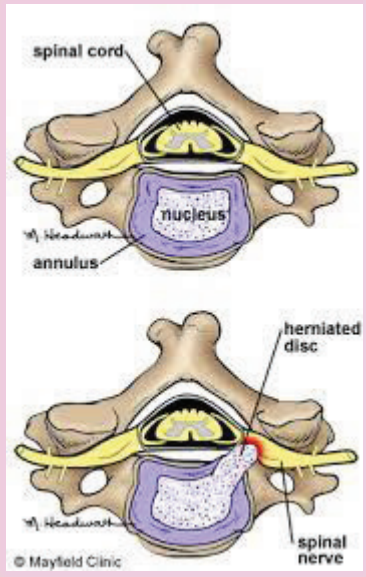
Neck pain can originate from various tissues, making it difficult for the average person to know where the source of the pain is coming from.



MUSCLES-the function of muscles is to contract and move our bones through space. Muscles have pain fibers embedded in them. These pain fibers will get very excited and let our conscious brain know when there is a problem. This usually happens when there is an increase in inflammation (inflammation is acidic and irritates the pain fibers). ***The inflammation can occur with physical injury to the muscle(s), muscle weakness, muscle tightness, or too much demand on the muscle.***

LIGAMENTS-Their function is to stop excess motion and provide stability to the joint(s). They also have an abundant supply of pain fibers associated with them. These fibers will get stimulated when inflammation occurs, resulting in pain. The inflammation can occur due to trauma (blunt or accumulative), lack of motion (joint locking), or too much motion.

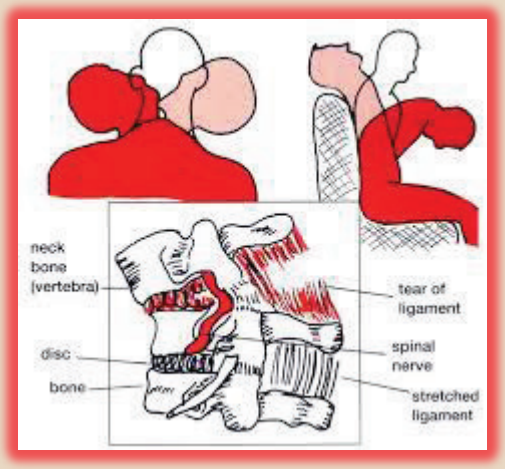
NERVES- Their function is to transmit messages usually from the brain to other parts of the body. A nerve can become inflamed, resulting in pain locally or cause symptoms down the length of the nerve (e.g. hand/arm pain/numbness/tingling). Nerves can be a source of pain not related to inflammation in more rare cases (e.g. RSDS)



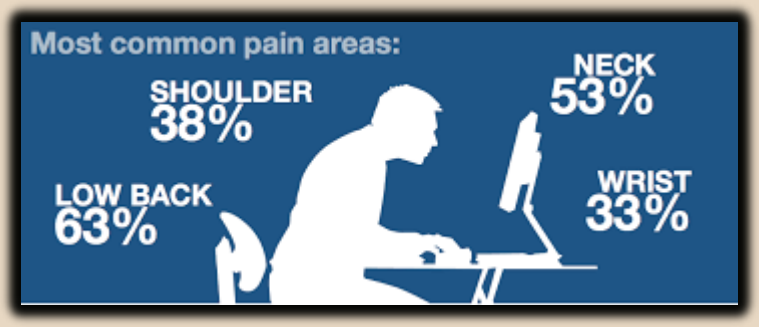
DISCS- Their function is mainly shock absorption but also help with movement. They also have pain fibers located in them. As discs are damaged the fibers are excited and can cause pain. More seriously, the disc can protrude outwards from severe injury or accumulative injury, over time and directly encroach upon a nerve causing more intense symptoms down the length of the nerve.

Causes of structural damage to the pain sensitive tissues

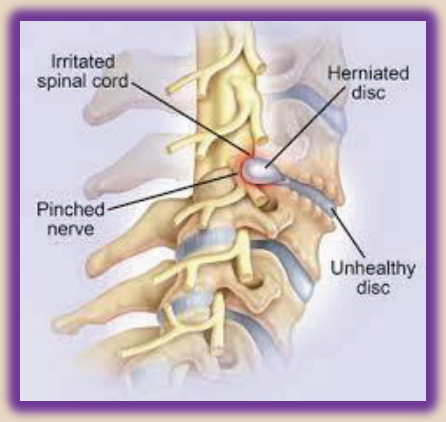
1.) <u>BLUNT TRAUMA</u>-Some examples of blunt trauma include auto accidents, falls, sports injuries, lifting improperly, and other body collisions. All cause joint locking, tearing, and over-stretching of the muscles and ligaments (sprain and strain injuries). Inflammation can occur causing irritation to the tissues. Muscle spasms can also occur resulting in more joint locking.



2.) **<u>ACCUMULATIVE TRAUMA</u>-**
Performing an activity repeatedly can cause an accumulative trauma. Examples of this are working on a computer all day, a Register Clerk at a grocery store, texting frequently throughout the day, a carpenter hammering every day, etc. Accumulative trauma can be compounded by a poorly designed work station, poor posture, muscle weakness, poor stretching habits, previous injuries that did not heal completely, and/or sitting/ standing in one position for too long. Inflammation can occur causing irritation to the tissues. Muscle spasms can occur resulting in more joint locking.

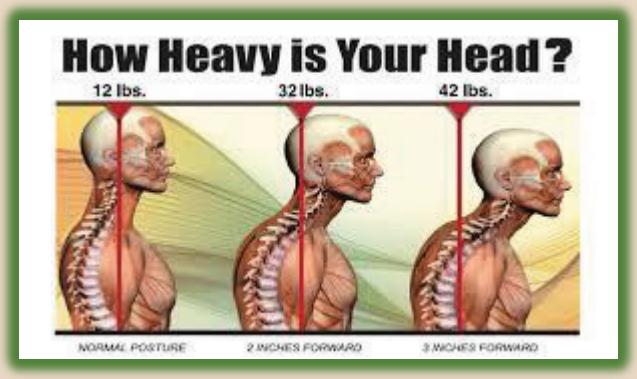


3.) <u>PREVIOUS INJURIES WHICH WERE NOT HEALED CORRECTLY</u>-
Many of us had previous injuries growing up that did not get taken care of properly. Most of us do not even remember these traumas because we were too young and they may have hurt for only a short amount of time. Because these injuries were not taken care of properly, at the beginning, they healed with excess scar tissue. Excess scar tissue formation will cause the surrounding tissues to become less mobile (locked joints and tight muscles).



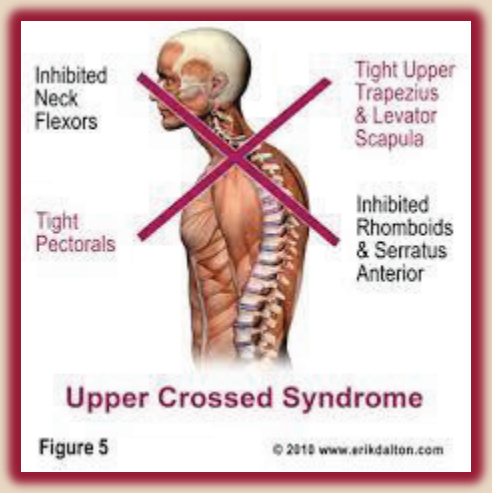
Over time, the scar tissue becomes laden with sensitive pain fibers and calcium deposits. The scar tissue also becomes more predisposed to inflammation, causing excitation of the pain fibers.

4.) <u>POOR POSTURE AND GAIT</u>- Poor posture is a major cause of neck pain in our society[1,2,3]. Our bodies were designed so that the head is balanced above the spine. It accomplishes this by having four normal curves. The cervical curve positions the head directly above the spine so that the weight of the head is balanced and most of the weight is being held up by the spine. Poor posture usually is the result of the head protruding too far forward. This will cause the head to **not** be balanced above the spine, resulting in an increased amount of physical stress placed on the muscles in the back of the neck and upper back. This will eventually cause the joints to lock up, muscles to spasm, and inflammation, resulting in pain. Contributors of poor posture are heavy backpacks, texting, prolonged computer use, muscle imbalance, etc.



Gait refers to the way we walk or run. As with posture, mechanical problems in the way we move through our environment, will cause certain joints and muscles to be physically stressed more than they should, resulting in locked joints and tight muscles. Inflammation occurs causing irritation to the tissues, muscle spasms, and more joint locking results.

5.) MUSCLE IMBALANCE-Caused by certain muscles being too tight and other muscles being too weak, relative to other muscles. This condition is called crossed posture syndrome. Crossed Posture Syndrome causes joint locking, muscle spasm, and inflammation. Uncorrected, crossed posture syndrome results in pain and disability.



What are my chances of having neck pain?

50-70% of adults will experience neck pain at some point in their lives[4]. Bovim, et al. found at any given time, that 1/3 of people are living with neck pain[5]. Other studies show 45% of U.S. workers will have neck pain/stiffness, which in most cases will result in lost time from work[6].

Treatment of neck pain

Neck pain is treated by many practitioners. Chiropractors, physical therapists, medical doctors, massage therapists, psychologists, acupuncturists, etc. By enlarge most neck pain is caused by inflammation irritating the pain fibers. *By reducing the inflammation and muscle spasm the pain will decrease accordingly.* ***However, the underlying causes for the pain and inflammation will not necessarily be resolved.***

HERE'S THE REAL PROBLEM: The underlying cause of most neck pain cases is mechanical (the tissues noted above are not functioning correctly). When there has been injury(s) to the neck or there has been long-term postural problems or both, and are not corrected, consequences to the integrity of the neck occur over time. Joints become locked, muscles tighten, inflammation ensues, and scar tissue eventually forms. Then, calcium deposits in the scar tissue, forming degenerative arthritis. The longer this is allowed to degenerate the more risk of severe damage occurs. **Symptoms, often do not correlate with the extent of damage until the end stages.** This degenerative condition can lead to disability and more pain. At some point, the tissues may degenerate so severely, that surgery may become an option. Unfortunately, success with surgery is usually minimal at best.

HERE'S THE REAL SOLUTION: *CORRECT THE FAULTY MECHANICS*, which in most cases should be done conservatively. The challenge is that over a lifetime a person may have had numerous injuries to the neck (known, unknown or unremembered). In addition, our society places our body in abnormal postures causing muscle imbalances to occur from a very early age. **To use a computer analogy, this is like an operating system that has been infected by numerous viruses. A total**

reformat is needed. Correcting the faulty mechanics begins with a comprehensive examination assessing posture, gait, muscle strength, flexibility, joint mechanics, balance, mobility, stress, range of motion, and neurologic/orthopedic integrity. Once all the mechanical deficits are known a comprehensive treatment approach can be devised. Treatment should include posture and gait correction, exercises to increase: mobility, strength, flexibility, balance, and nerve function (CNS and PNS). Treatment should also include chiropractic care to increase joint mobility and programs to decrease stress. ***In our office, this is achieved with the Advanced Corrective Care Program.***

RESEARCH CITATIONS

1. Page P., Frank C., Lardner R., Assessment and Treatment of muscle Imbalance. Human Kinetics 2010; pages 177.
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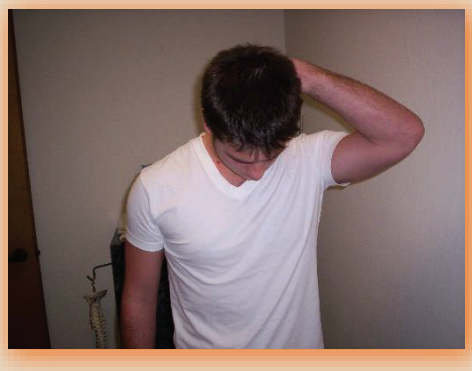
4. HURWITZ EL. EPIDEMIOLOGY OF CERVICAL SPINE DISORDERS. IN: MURPHY DR, ED. CONSERVATIVE MANAGEMENT OF CERVICAL SPINE SYNDROMES. NEW YORK: MCGRAW-HILL 2000; 105-28.
5. BOVIM G, SCHRADER H, SAND T. NECK PAIN IN THE GENERAL POPULATION. SPINE 1994; 19:13-7-1309.
6. B. CAGNIE, L. DANNEELS, D.VAN TIGGELS, V. DE LOOSE, D. CAMBER INDIVIDUAL AND WORK RELATED RISK FACTORS FOR NECK PAIN AMONG OFFICE WORKERS: A CROSS SECTIONAL STUDY. EUROPEAN SPINE JOURNAL 2005 VOL.16 ISSUE 5 PAGES 679-686.

NECK STRETCHES

NECK
Flexion

This stretch can be done sitting or standing. Tuck your chin in and bend your head forward until a gentle stretch is felt. Then using 1-2 fingers **lightly** apply pressure to the of the head pushing forward

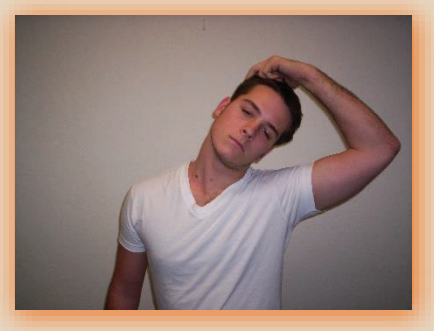
Hold the stretch _____seconds
Do this stretch ____times per day



NECK
Lateral Bending

This stretch can be done sitting or standing. Bend your head to the side, with the ear going toward the shoulder until a gentle stretch is felt. Then using 1-2 fingers of the hand on the side that you are bending to, **lightly** pull the side of the head toward the shoulder.

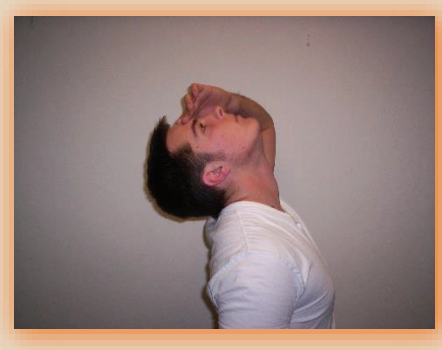
Hold the stretch _____seconds
Do this stretch ____times per day



NECK
Extension

This stretch can be done sitting or standing. Bend your head backward until a gentle stretch is felt. Then using 1-2 fingers **lightly** apply pressure to the forehead pushing backward.

Hold the stretch _____seconds
Do this stretch ____times per day



NECK
Rotation

This stretch can be done sitting or standing. Rotate your head to the side as to look over your shoulder until a gentle stretch is felt. Then using 1-2 fingers of the hand opposite the side that you are rotating to, **lightly** apply pressure to the cheekbone, not the chin until a slight stretch is felt.

Hold the stretch _____seconds
Do this stretch ____times per day