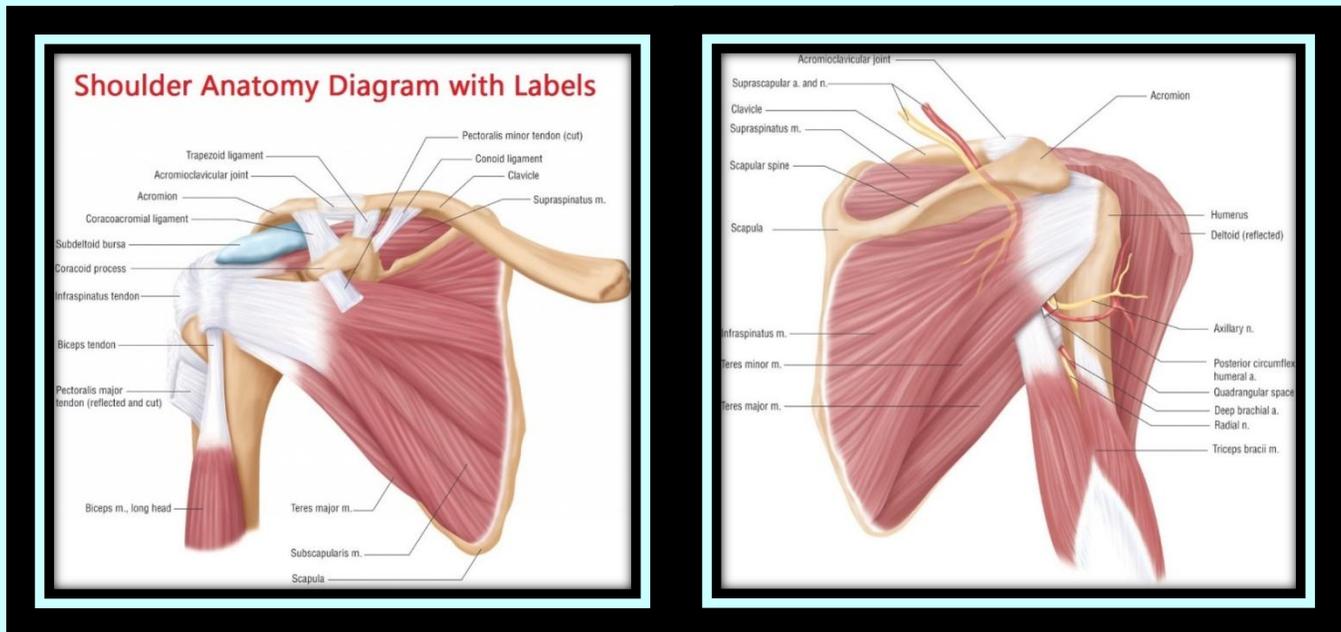


SHOULDER PAIN REPORT

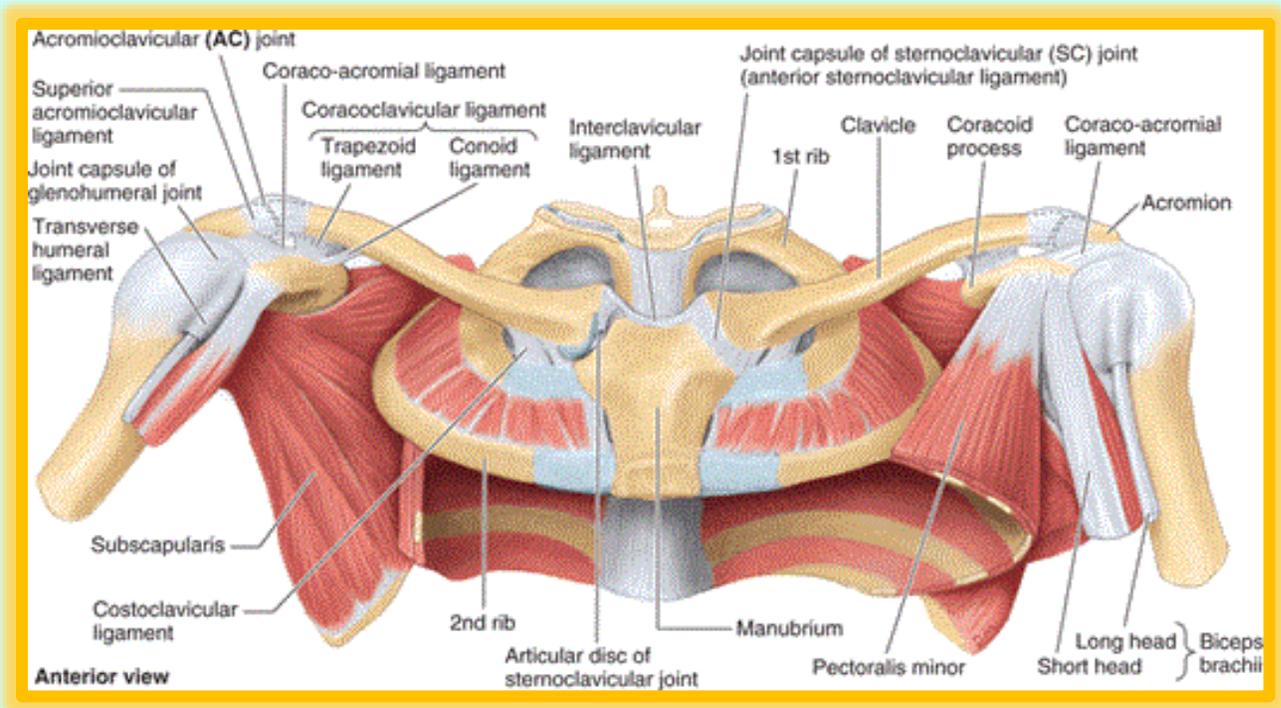
Shoulder pain can originate from any of the various tissues around the shoulder joint complex or be referred from the nerves originating from the neck. This makes it difficult for the average person to know where the source of the pain is coming from.



MUSCLES-the function of any muscle group is to contract and move our bones through space. These muscle groups have pain fibers imbedded in them. When stimulated the 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), due to injury or dysfunction (muscle weakness or tightness).

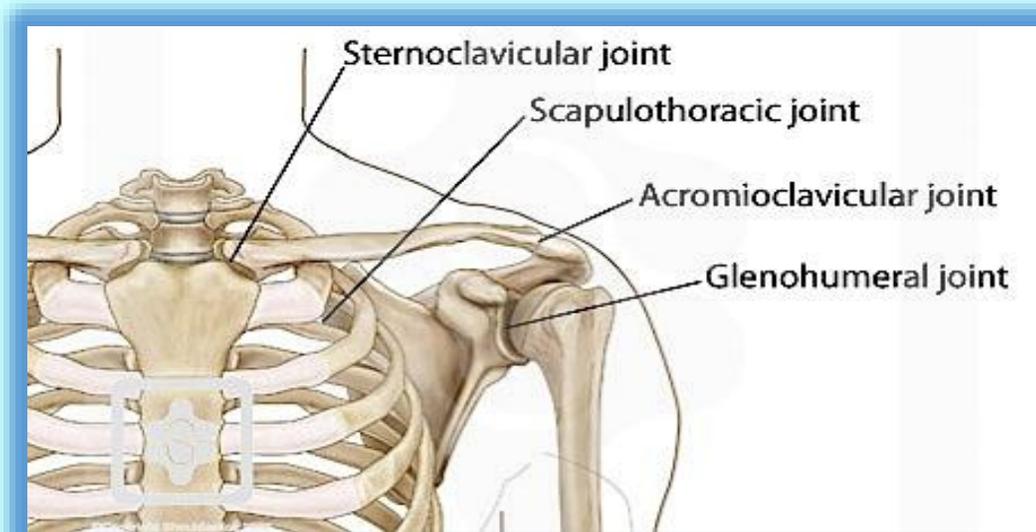
Any of the muscles around the shoulder joint complex can cause pain. However, the more common muscles involved are the ones that make up the rotator cuff: (1) **Supraspinatus**, (2) **Infraspinatus**, (3) **Teres Minor**, and the (4) **Subscapularis**. The biceps tendon can also be a common source of shoulder pain. Although shoulder pain can occur from tearing of any of the muscles noted above, more commonly shoulder pain comes from a condition called **impingement syndrome**. Most shoulder impingement syndromes occur due to the rotator cuff muscles or biceps becoming weak relative the other surrounding muscles.

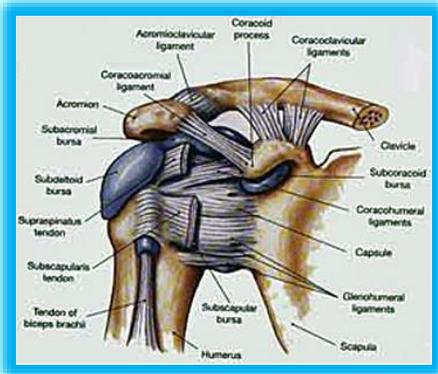
Causes of muscle pain are tearing of the muscle or tendon from injury and muscle imbalance due to excessive weakness and/or tightness of the muscle.



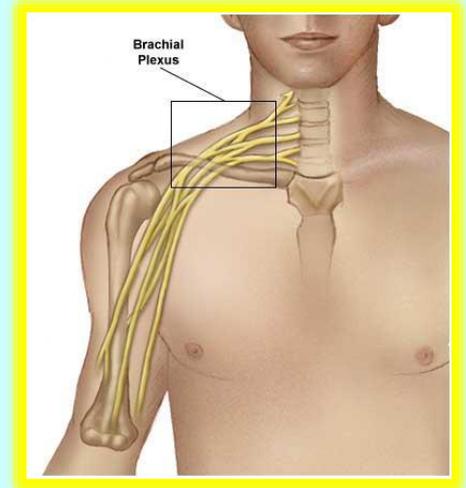
LIGAMENTS- Their function is to stop excess motion and provide stability to the joint. They also have an abundant supply of pain fibers associated with them. These fibers will get stimulated when inflammation occurs, resulting in pain. The inflammation can occur due to trauma (blunt or accumulative),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

JOINTS- Joints allow motion between two bones and are held together by ligaments. When joints become injured or locked up, inflammation eventually occurs, stimulating pain fibers. In the shoulder complex, the acromioclavicular (A-C), sternoclavicular (S-C), glenohumeral, and scapulothoracic joints can all be sources of shoulder pain.





BURSA SACS- Their function is to allow for smooth gliding between bone and soft tissues. Inflammation can fill in these sacs due to injury or joint/muscle dysfunction, resulting in pain.



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. shoulder/arm pain/numbness/tingling). One example of shoulder pain caused by an inflamed nerve is when either the cervical or upper thoracic joints become dysfunctional from trauma, poor posture, muscle imbalance or stress.

Causes of Tissue Damage, Resulting in Inflammation to the Pain Sensitive Tissues of the Shoulder.

1.) BLUNT TRAUMA-Auto accidents, falls, sports injuries, lifting improperly, and other body collisions can all cause joint locking, tearing and over-stretching of the muscles or ligaments (sprain and strain injuries). Inflammation occurs causing irritation to the tissues, muscle spasms occur and more joint locking results.

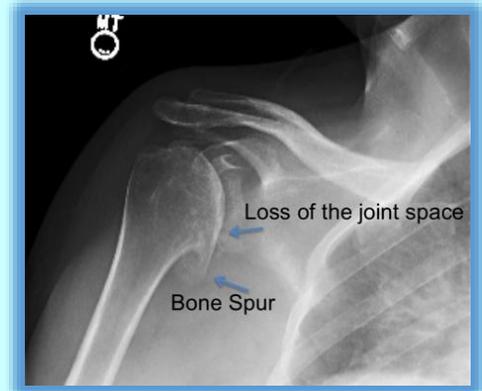


2.) CUMULATIVE TRAUMA-Performing an activity repeatedly can cause a cumulative trauma. Examples of this are doing martial arts, working out in a gym, warehouse workers, overhead lifting, playing tennis, poor sleeping postures, and other sports activities. Cumulative trauma can be compounded by a poorly designed work station, poor posture, muscle weakness, poor stretching habits, and previous injuries that did not heal completely. Inflammation and muscle spasms occur causing irritation to the tissues which results in the joints locking.

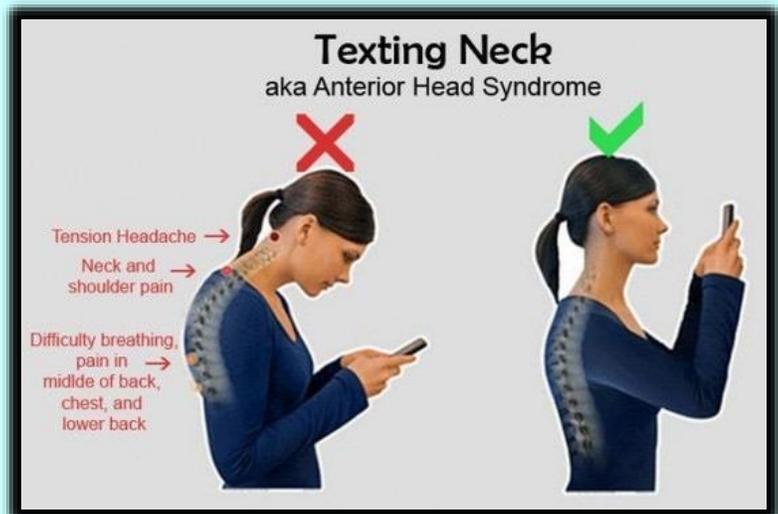


3.) PREVIOUS INJURIES WHICH WERE NOT HEALED CORRECTLY-

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 pain sensitive fibers and calcium deposits (osteoarthritis). The scar tissue also becomes more predisposed to inflammation, causing the pain fibers to become excited.***

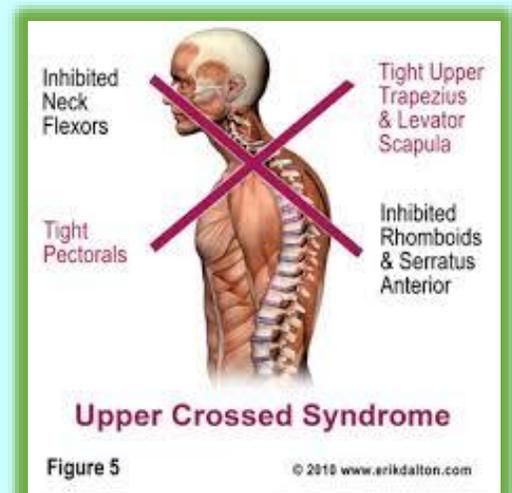


4.) POOR POSTURE- Forward head displacement and forward rolled shoulders can cause or contribute to shoulder impingement syndrome [1]. Rolled shoulders cause a decrease in the space of the sub-acromial arch, leading to impingement and shoulder pain [1]. **Studies have shown poor posture can lead to shoulder pain and rotator cuff tears. [2].** Contributors of poor posture are prolonged sitting, prolonged computer use, lack of exercise, muscle imbalance, etc.



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. Examples of muscle imbalance conditions causing shoulder pain are: tight pectorals and weak rhomboid and neck flexors leading to shoulder pain [3].



6.) OTHER CAUSES OF SHOULDER PAIN

Advanced degeneration of the shoulder joint (osteoarthritis) can cause significant shoulder pain and disability. The degeneration, over time may have been caused by an old injury or faulty mechanics. Faulty mechanics is caused by muscle imbalance and poor posture. Labral tears, shoulder instability, and or frozen shoulder are other cause of significant shoulder pain.

Treatment of Shoulder Pain

Shoulder pain is treated by many practitioners. Chiropractors, physical therapists, medical doctors, massage therapists, acupuncturists, etc. *By enlarge, most shoulder 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 will not necessarily be addressed.* Chiropractors will adjust the shoulder joints that are locked up, use physical therapy modalities to help reduce the inflammation and muscle spasm, and instruct the patient to ice, stretch, and rest at home. Physical therapists will use physical therapy modalities to help with reducing the inflammation and muscle spasms, do gentle stretches with the patient, maybe some short massage work and instruct the patient on home stretches. Medical doctors will use medication in the form of anti-inflammatories, pain meds, and muscle relaxants to reduce the inflammation and muscle spasms, and instruct the patient to rest. In more severe or advanced cases surgery may be needed. All of them have some benefit but again may not be addressing the underlying cause.

HERE'S THE REAL PROBLEM: The underlying cause of most shoulder pain cases is mechanical (the tissues noted above are not functioning correctly). When there has been injury(s) to the shoulder, dysfunction due to muscle imbalance, or there has been long-term postural problem or a combination of any of these, and they are not corrected, consequences to the integrity of the shoulder 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 shoulder (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 correction, exercises to increase: mobility, strength, flexibility, balance, and nerve function (CNS and PNS). Treatment should also include chiropractic care to increase joint motion, physical therapy modalities to be used to address the inflammation and muscle spasm, and programs to decrease stress. In our office, this is achieved with the Advanced Corrective Care Program.*

LITERATURE CITATIONS

- [1] Solem-Bertoft, E., K. A. Thuomas, and C. E. Westerberg. 1993. The influence of scapular retraction and protraction on the width of the subacromial space. An MRI study. *Clin. Orthop Relat Res* 296:99-103
- [2] Journal of Shoulder and Elbow Surgery 2015 Mar;24 (3):446-52
- [3] Page P., Frank C., Lardner R., Assessment and Treatment of muscle Imbalance. *Human Kinetics* 2010; pages 195-196.

STRETCHES FOR THE MUSCLES OF THE SHOULDER

SHOULDERS

Flexion

Stand facing the wall or door. Slide your hand up the wall until pain starts or your arm stops. Bend both knees and bring your body in closer to the wall to get a greater stretch of the shoulder.

Hold the stretch _____seconds
Do this stretch ____times per day



SHOULDERS

Abduction

Stand with your side facing the wall or door. Slide your hand up the wall until pain starts or your arm stops. Bend both knees and bring your body in closer to the wall to get a greater stretch of the shoulder.

Hold the stretch _____seconds
Do this stretch ____times per day



SHOULDERS

External Rotation

Place elbow and forearm against the wall or door. Rotate your body away from the shoulder creating a stretch in the shoulder.

Hold the stretch _____seconds
Do this stretch ____times per day



SHOULDERS

Internal Rotation

Place one arm (the shoulder to be stretched) behind the back. With the other hand, reach back and push the other hand back to stretch the shoulder.

Hold the stretch _____seconds
Do this stretch ____times per day

