

# The Athlete's Shoulder

## *Resolving Shoulder Injuries with Active Release Techniques® (ART®)*

Athletic activities require a considerable amount of strength, coordination, and flexibility from the shoulder. As a result, athletes participating in sports such as swimming, paddling, golf, baseball, and tennis, commonly develop shoulder injuries. Unfortunately, when shoulder injuries occur they not only prevent optimal performance, but they often progress to the point of preventing competition and training all together. To make matters worse, many of the most common shoulder conditions are slow to respond to traditional types of treatment and often result in months of frustration for the athlete.

Fortunately, a new treatment technique known as Active Release Techniques® (ART®) is proving to be a very successful method to combat many common shoulder problems and get athletes back in the game quickly and effectively. But before we talk about why ART® works so effectively, first we need to understand how the shoulder becomes injured in the first place.

### **Shoulder Basics – The high cost of mobility**

The shoulder joint consists of the round head of the upper arm connecting to the flat surface of the shoulder blade. This “round-on-flat” relationship is different from most other joints in the body, and as a result is capable of providing a great deal of movement. For example, most joints allow only one direction of movement (i.e. ankle, knee, elbow, fingers). In comparison, the architecture of the shoulder allows us to reach up overhead, back behind the body, across the chest, and into internal and external rotation.

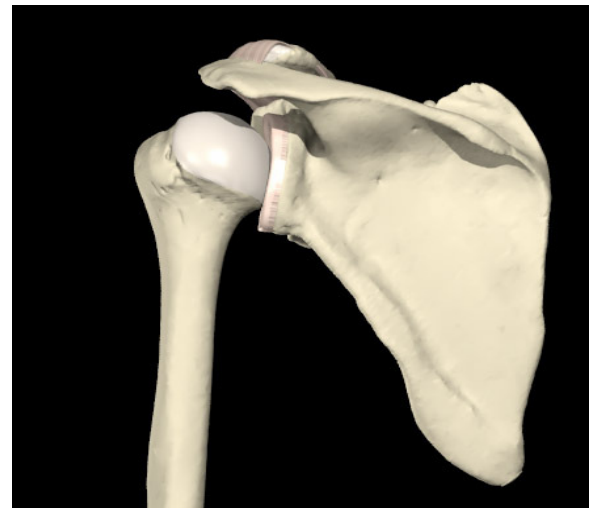
When talking about the shoulder it is important to understand that the shoulder blade also makes an important contribution to the mobility of the shoulder region. This occurs in larger part because the shoulder blade is not tightly

connected to the ribcage through joints or ligaments. As a result, when the arm moves the shoulder blade will slide and rotate on the ribcage, which greatly adds to the movement capacity of the shoulder region.

Although the mobility of the shoulder provides us with the ability to push, pull, throw, lift, and swing, it comes at a great cost as the lack of bony support fails to provide the same protection and stability that is found at other joints. As a result, proper shoulder motion requires a complex set of muscles to help control and stabilize the region. The primary muscles that provide control and protection at the shoulder joint are the Rotator Cuff muscles, while the shoulder blade relies on a group of muscles referred to as the “Scapular Stabilizers”. The Rotator Cuff - a group of four muscles located on the back, top, and front of the shoulder joint - plays a critical role



in stabilizing the shoulder by holding the arm tightly against the shoulder blade. When the arm is moved in any direction these muscles have to contract to prevent the round surface of the upper arm from sliding excessively on the flat surface of the shoulder blade. The Scapular Stabilizers connect the shoulder blade to the body and are required to hold the shoulder blade tight against the ribcage as well as slide and rotate the shoulder blade as the arm moves. When the Rotator Cuff and Scapular Stabilizer muscles are working properly the shoulder region remains stable and protected. However, as you will see, these muscles often develop problems which can lead to pain and injury in the shoulder.



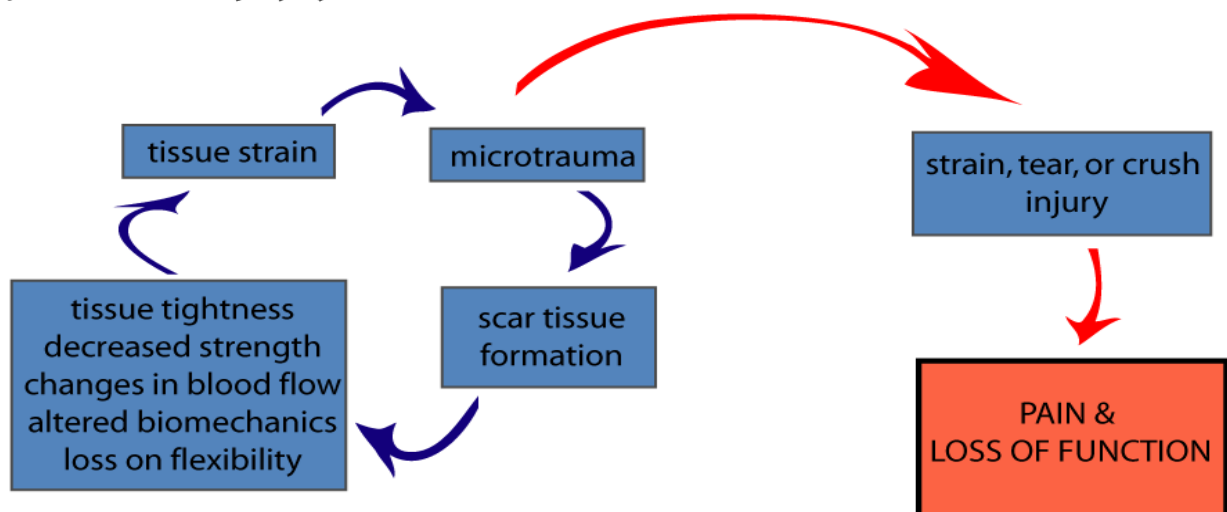
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### How Does Injury Occur?

Athletic activities place considerably more demand on the shoulders compared with typical daily activities. Throwing and racquet sports require the arm to reach above and behind the body, golf and baseball require the shoulders to rotate across the body, swimming and paddling involve pulling the arm toward the body. This increased movement demand requires the Rotator Cuff and Scapular Stabilizer muscles to generate a tremendous amount of force to move and stabilize the shoulder. To make matters worse, these sports demand that these same motions are repeated over and over again. This combination of repetitive motions and high contractile demand can cause problems to develop in the shoulder, as the muscles often cannot keep up with the workload.

Over time the muscles become strained and develop small scale injury known as micro-trauma. Initially this micro-trauma is not painful, but may be perceived as a mild ache or tightness in the muscles. Although only small, the damage still needs to be repaired. The body responds to tissue injury in a very predictable way – by laying down new tissue to repair the damaged tissue. With micro-trauma the body repairs the strained tissue by laying down small amounts of scar tissue in and around the injured area. The scar tissue itself is not a problem – in fact it is a normal and necessary part of healing. The problem occurs when the shoulder is repeatedly subjected to the same high force athletic movements. This in turn causes the same muscles to become strained and subsequently repaired over

the repetitive strain injury cycle



and over again. Over time scar tissue will build-up and accumulate into what we call **adhesions**. As these adhesions form they start to affect the normal health and function of the muscles. In fact, **they will often lead to pain, tightness, stiffness, restricted joint motion, and diminished blood flow**.

As these scar tissue adhesions accumulate in the shoulder region, it places more and more strain on the muscles as they must now stretch and contract against these adhesions in an attempt to move and stabilize the shoulder. This places even further strain on the shoulder muscles, which in turn leads to more micro-trauma. Essentially a repetitive injury cycle is set-up causing continued adhesion formation and progressive shoulder dysfunction. As the cycle progresses the ability of the muscles to contract properly is affected and the stability of the shoulder becomes compromised. At this point it is not uncommon for the muscles to give way, resulting in a more severe and debilitating pain. In fact, many athletes come into our office explaining how they have hurt their shoulder during a routine task that they have done thousands of times before. When further



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questioned these athletes almost always describe some mild pain or tightness in their shoulders that has been building over time. As you can see from the explanation of the repetitive injury cycle, these types of injuries build-up over time and the more acute injury is often just the “straw-that-broke-the-camels-back.”

## How Can Shoulder Injuries Be Fixed?

### The Traditional Approach

In an attempt to relieve shoulder 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 anti-inflammatory medications, rest, ice, ultrasound (US), muscle stimulation (E-Stim), steroid injections, stretching, exercise, 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. This can be a huge problem as athletes often want and need to get back to training and competition as soon as possible.

The main reason that these approaches are often ineffective is that they fail to address the underlying scar tissue adhesions that develop

within the muscles and surrounding soft tissues. It is these adhesions that are binding the tissues together, restricting normal movements, and interfering with the normal flexibility and contraction of the muscles in the shoulder area.

Passive approaches such as medications, rest, ice, and steroid injections 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 the shoulder condition.



## **Our Approach: ART® – A Better Solution**

ART® stands for Active Release Techniques®. It is a new and highly successful hands-on treatment method to address problems in the soft tissues of the body, including the muscles, ligaments, fascia, and nerves. ART® treatment is highly successful in dealing with shoulder problems in the athlete because it is specifically designed to locate and treat scar tissue adhesions that accumulate in the muscles and surrounding soft tissues. By locating and treating the soft-tissue adhesions with ART®, it allows the practitioner to, 1) break-up restrictive adhesions, 2) reinstate normal tissue flexibility and movement, and 3) more completely restore flexibility, balance, and stability to the shoulder region.

You can think of an ART® treatment as a type of active massage. The practitioner will first shorten the muscle, tendon, ligament, or nerve, and then apply a very specific pressure with their hands as you actively stretch and lengthen the tissues. As the tissue lengthens the practitioner is able to assess the texture and tension of the muscle to determine if the tissue is healthy or contains scar tissue that needs further treatment. When scar tissue adhesions are felt the amount and direction of tension can be modified to treat the problematic area. In this sense, each treatment is also an assessment of the health of the area as we are able to feel specifically where the problem is occurring.

An additional benefit of ART® is it allows us to further assess and correct problems not only at the shoulder itself, but also in other areas of the “kinetic chain” such as the elbow, hand, and ribcage, which are often contributing factors to the problem. This ensures that all the soft tissues that have become dysfunctional and are contributing to the specific injury are addressed, even if they have not yet all developed pain.

One of the best things about ART® is how fast it can get results. In our experience, the majority of athletes with shoulder problems respond very well to ART® treatments, especially when combined with home stretching and strengthening exercises. Although each case is unique and there are several factors that will determine the length of time required to resolve each condition, we usually find a significant improvement can be gained in just 5-8 treatments. These results are the main reason that many elite athletes and professional sports teams have ART® practitioners on staff to keep their athletes healthy and performing their best, and why ART® is an integral part of the Ironman triathlon series.

To book an appointment to see if ART® will be able to help with your shoulder problem, simply call our office at **(902) 861-2511**. For more information on ART® or specific injuries, please send us an email at [frchiropractic@eastlink.ca](mailto:frchiropractic@eastlink.ca).