

Dispelling the myths about tendon injuries and treatment

Dr. Andreo A. Spina

It is the goal of this article to attempt to dispel some of the myths surrounding tendon injuries so that the athlete is able to make sound decisions along with their health care provider regarding the proper management of their soft tissue injury. With the enormous plethora of treatments available, the astute athlete is forced to educate themselves on musculo-skeletal injuries in order to make sound, evidence based decisions on which treatment to receive in order to keep them functioning at 100% of their capacity.

In the realm of soft tissue injury, tendon problems are among the most common, and unfortunately are among the most common to be managed poorly. “Tendonitis” such as that of the Achilles, lateral elbow, and rotator cuff tendons is a common presentation to various medical or chiropractic clinics. Currently doctors are taught, and still believe *despite lack of biological rationale or clinical evidence*, that patients who present with overuse ‘tendonitis’ have a largely inflammatory condition (hence the suffix –“it is”) and will benefit from being treated as such (e.g. Anti-inflammatory medication). In actuality, painful overuse tendon conditions have a **non-inflammatory pathology!** Microscopic examinations of tendons with this condition have been shown to display an absence of the classic inflammatory cells. Instead what is found is degeneration of the tendon with separation of the fibers, disorganization of tendon structure, and interspersed scar tissue.

Thus numerous authorities recommend the term **tendonopathy** or **tendonalgia** as it acknowledges that the condition is non-inflammatory (-“itis”). This difference is not only a matter of grammatical accuracy; it has implications with regards to proper management of these conditions.

Possible treatments (the good, the bad, and the ugly)

Active Release Technique ® (A. R. T.) – ART has gained momentum in recent years as being the leader in soft tissue management systems among athletes. It involves using the practitioners’ hands, applying a very specific force to individual muscles, ligaments, and tendons as the patient actively or passively moves their body through a full range of motion. This treatment is used to break up scar tissue (termed ‘adhesions’), improve tissue fluid flow (including blood and lymph), reduce tissue tension, and improve relative tissue motion (sliding of tissues past one another with less friction or tension). This treatment is extremely effective as part of a management plan for overuse tendon problems.

Graston Technique ® - Using stainless steel instruments, the practitioner uses these tools to glide them along the tissue in question in order to create mild micro trauma which will in turn ‘jump start’ the natural healing process. Histological studies have demonstrated usefulness of this technique in aiding the repair process of tendon injuries.

Medical Acupuncture – Although acupuncture has been used for thousands of years in traditional Chinese medicine, recent advanced in scientific literature have advanced the

methods of acupuncture use to be more tissue specific. Many studies have shown the usefulness of acupuncture in decreasing pain by various means (ex. Beta-endorphin release, increasing blood flow to injured tissue, decreasing the pain signal at the spinal cord, etc.) Thus this form of therapy is useful in managing the pain associated with tendon injury.

Eccentric Rehabilitation – The eccentric portion of an exercise is that part in which the muscle is lengthening while maintaining control of the weight. Eccentric training regiments have demonstrated an enormous capability to increase protein production in degenerated tendons thus making it an essential part of a proper treatment regimen.

Relative Rest – Tendinosis involves structural damage to the tendon that may require a longer healing period than has traditionally been afforded. Thus relative rest (i.e. active rest whereby the athlete continues to train with modification to their schedule) may be needed for longer than is usually given. This time can be shortened with proper management of the condition (see below).

Technique Correction – aims to decrease the load exerted along the tendon, it clearly has a place in managing tendinosis associated with overuse conditions.

Surgery – Clinical research claims that it **may** be effective, however it has been argued that perhaps the postoperative healing response and the careful progression of rehabilitation after surgery, rather than the surgery itself, caused improvement in the patients condition.

Corticosteroid Injection – Subject to debate. Very few well-designed studies have been conducted. As well, one must consider that corticosteroid injections will inhibit collagen synthesis (what tendons are made of) thus decreasing the amount of load that a tendon can withstand before failure.

Anti-inflammatory Drugs (NSAIDs) – Studies show no beneficial effect of NSAIDs in patients with tendon conditions (not surprising as it is not an inflammatory condition). In fact, the 'pain killing' effect of NSAIDs may permit patients to ignore early symptoms thus allowing further tendon damage. In a recent study in the American Journal of Sports Medicine, it was found that the use of NSAID drugs may increase levels of leukotriene B4 thus potentially contributing to the development of tendinosis.