Wei Laboratories | History Science Health

Tendinosis, Tendinitis, Tendon Tear, and CTS Protocol

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Tendons are thick cords that join muscles to bones. Healthy tendon tissue mostly consists of mature type I collagen fibers which are normally organized into bundles of fibrils that run parallel along the length of the tendon. The longitudinal arrangement of the collagen fibers gives the tendon its tensile strength. The tensile strength in a tendon can be more than twice that of its associated muscle. As a result, tendons are rarely injured or torn.

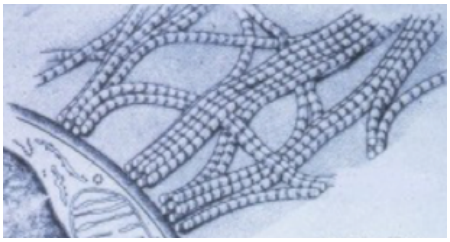
There are also small amounts of type III collagen fibers present in healthy tissue. Type III collagen fibers are immature, thinner, unaligned with each other, and sometimes fail to link together to facilitate load- bearing.

Tendinosis

Type I Collagen Fibers

Tendinosis is chronic tendon degeneration that involves collagen deterioration. It can occur in any tendon throughout the body but usually occurs in the Achilles tendon, wrist tendon, elbow tendon, patellar tendon or rotator cuff. Tendinosis usually occurs at the boney attachment (where the tendon attaches to the bone), but can also occur in the middle of the tendon, most commonly seen in the Achilles tendon.

Type II Collagen Fibers



Symptoms include tendon pain when moved or palpated, stiffness and range of motion constraints as well as tendon thickening and lumps which can be palpable or even visible in severe case. Clinically, tendon thickening is often present in older individuals who have had ongoing problems with tendinopathy, or in younger individuals who continually overload the tendon

Tendinosis results when a tendon is continually overused from repetitive movements or strain without giving the tendon time to heal and rest. Even small movements such as clicking a mouse repeatedly can exert excessive tensile force on the tendon causing a reduction in the amount of type I collagen fibers and the proliferation of immature types III collagen fibers. These degenerative changes are triggered by the activation of a stress-activated protein kinase along with the initiation of programmed cell death. A microscopic view of tendinosis reveals an increase of immature type III collagen fibers, a loss of collagen continuity, an increase in ground substance (material between the body's cells), and a disorganized increase of non-productive vascularization.

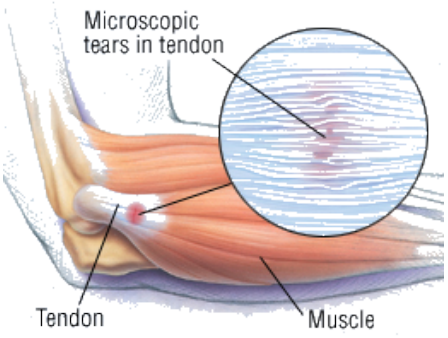
Histopathologic analysis supports the hypothesis that tendinitis occurs secondarily to tendinosis, in other words, tendinosis precedes tendinitis. Since a healthy tendon is up to twice as strong as a muscle, a tendon is unlikely to tear before the muscle tears. If a tendon has already been degenerated at the cellular level, the tendon can become weaker than a muscle and will be injured before the muscle thus leading to tendinitis. Tendinosis is often responsible for the pain and burning in the affected area, decreased strength and flexibility, and aching during everyday activities. For patients who are elderly or with medical conditions such as diabetes, tendinosis is very common and can develop quickly.

If tendon fiber tearing were the primary problem, the tissue would heal rather quickly. However, besides torn fibers; scar tissue, calcification, and very rarely, inflammatory cells are often found in conjunction with tendinosis. Not only is collagen rebuilding a slow process but healing tendinosis also requires many components including reversal of cellular damage, optimizing collagen production, improving tensile strength, and removal of scar tissue and calcification. Tendons do not receive the same amount of oxygen and blood that muscles do especially at the mid portion of the tendon and at the boney attachment where tendinosis occurs, thus making the healing of tendinosis difficult and lengthy. With current traditional treatment, an early stage tendinosis can take 6 to 10

weeks. However, if the condition is not taken care of promptly and becomes chronic, it can take 3 to 9 months based on severity.

Tendinitis

Tendinitis is a condition in which tendons become inflamed or irritated. Symptoms of tendinitis include tendon inflammation, acute pain, tenderness, and stiffness. Even though any tendon can develop tendinitis, it is most common in the shoulders, knees, elbows, heels, or wrists. These forms of tendinitis may also be called rotator cuff tendinitis, jumper's knee, tennis elbow, golfer's elbow, Achilles tendinitis, and carpal tunnel syndrome, respectively.



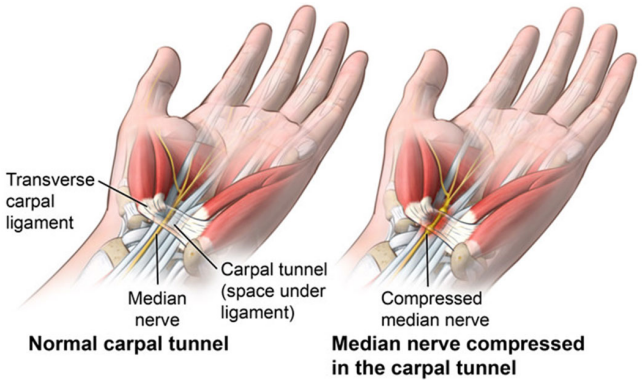
Tendinitis is usually caused by an acute injury resulting in micro-tears when a tendon which has undergone degenerative changes is overloaded with a tensile force that is too heavy and/or too sudden. The degenerated tendons lose their strength due to the loss of the parallel and aligned type I collagen fibers which are replaced by the bulky and weak type III collagen fibers, therefore, making it weaker and more vulnerable to injury.

In the event of the sudden tensile force overload on the degenerative tendon, the injury usually occurs at the musculotendinous junction where the muscle and tendon meet. Even in muscles where complete ruptures occur, such as the biceps brachii or triceps surae group, the rupture usually is at the musculotendinous junction.

Tendon Tear

Tendon tears usually occur due to trauma or when the tendon has degenerated and is more susceptible to an injury. In the event of a tendon injury, the tendon tears away from the bone or ruptures within the tendon itself. Rotator cuff tears occur frequently in overhead sports and in individuals who have a degenerated rotator cuff tendon. Untreated partial tears can progress to large rotator cuff tears. Achilles tendon tears also occur frequently from traumatic injuries when the tendon is subject to unusually high loads which can be due to a combination of chronic degeneration with exposure to high loads.

Carpal tunnel syndrome (CTS) is a condition that results from compression of the median nerve as it travels through the wrist and under the carpal tunnel. The tendons in the carpal tunnel become inflamed, compressing the median nerve and reducing control over the thumb and first three fingers. This can cause pain, numbness, tingling, and weakness in the hands, wrist, or forearm. Tendinosis in the forearm and wrist can cause a secondary carpal tunnel syndrome because the thickening of the tendons along with excess ground substance and swelling of the surrounding tissue can crowd and compresses the median nerve. According to an estimate done by the U.S Centers for Disease Control and Prevention, 3.1% of employed adults between 18 and 64 had carpal syndrome in the past year.



Wellness Recommendation
The recommendation depends on the underlying condition.

1. Inflammation Stage Tendinitis and Tendon Tears
   If there is only tendon inflammation or a tendon tear, the FASTT Patch is recommended to help heal the tendon injury and resolve inflammation by increasing local blood flow, increasing local lymphatic circulation, and accelerating local biological activities geared towards tendon healing.
2. Degeneration Stage Tendinitis
   If there is both tendon inflammation or tendon tears and tendon degeneration along with nodulations, both the FASTT and WHITEE Patches are recommended. The FASTT Patch helps heal tendon injuries by accelerating local biological activities to expedite healthy collagen regeneration and reverse cellular damage. The WHITEE Patch helps clear the ground substance, scars, and calcifications as well as reverse degeneration.
3. Tendinosis
   If there is only tendon degeneration along with excessive nodulations, both the FASTT and WHITEE Patches are recommended. The FASTT Patch triggers the healing mechanism for the regeneration of type I collagen. The WHITEE Patch helps clear the ground substance, scars, and calcifications as well as reverse degeneration.

These products help eliminate or significantly decrease pain, increase range of motion, increase strength, and return the patient to their normal daily activities.

Inflammation Stage Tendinitis and Tendon Tears
Inflammation stage tendinitis is an inflammatory immune response caused by an acute injury or tendon tear. Inflammation stage tendinitis lacks collagen degeneration, scar tissue or calcifications since it is caused by an injury versus tendon degeneration. Wei Lab's FASTT Patch is recommended for acute inflammation stage tendinitis.

- If the tendinitis onset is within 3 months, 3 FASTT Patches can help achieve complete healing.
- If there are visible tears at the musculotendinous junction, 6 FASTT Patches are required.
- If the onset of the tendinitis or tendon tear is over 3 months or the patient is over 50 years old, 6 FASTT Patches are required.

Degeneration Stage Tendinitis and Tendinosis
In degeneration stage tendonitis cases, there are both tendon inflammation, tendon tears, and tendon degeneration that has occurred over time due to repetitive motions.

- For degeneration stage tendonitis and early-stage tendinosis which has limited scar tissue buildup, 1 to 2 FASTT Patches are required to trigger the healing process and reduce inflammation. Patients may not experience immediate pain reduction or can notice a spike in pain after using 1 to 2 patches. It may require treatment with 3 FASTT Patches (is recommended) to experience pain reduction. (For significant improvement,) Up to 6 FASTT Patches may be required for significant improvement. LC Balancer may also be required to accelerate the healing process by improving microcirculation.
- For chronic tendinosis which involves significant amounts of scar tissue, calcification, ground substance, and type III collagen; treatment with 3 FASTT Patches may achieve minimal improvement especially for shoulder, knee, and neck tendon injuries. It is recommended to start with 6 FASTT Patches to heal the micro-tears and activate the healing process. Then, rotate between FASTT and WHITEE Patches to support healthy collagen regeneration, ground substance clearance, tendon thickening reduction, and scar and calcification removal. The number of FASTT and WHITEE Patches required may vary depending on the specific condition. LC Balancer is recommended in addition to the patches to accelerate healing.

Tendinitis Complicated with Joint Problems, Biomechanical issues, and Muscle Weakness

Patients who also have a cartilage injury or osteoarthritis in a joint adjacent to their tendinitis may not notice significant improvement with the FASTT Patch alone. The use of WHITEE Patches and LC Balancer may be necessary for the patient to achieve full symptom improvement.

Patients who have biomechanical issues such as muscle weakness or posture issues may require rehabilitation exercises to prevent reoccurrence of the tendon issues.

Usage Information:

FASTT and WHITEE Patches:

- Keep the patch on for 48 hours (2days) and take a 24-hour break before applying the next one. Avoid using ice. Ice will slow and interrupt the healing process.
- A heating pad is helpful.
- Use vegetable oil, petroleum jelly, or Vaseline to remove possible herbal residue on the skin.
- Use Aloe Vera Gel if there is skin irritation.
- Use Oxi-Clean or Biz to remove stains from clothes.

LC Balancer:

- 1 tsp, 3 times a day, or 3 capsules, 3 times a day.
- Patients with pre-existing gastrointestinal sensitivity may experience healing pain such as a stomach ache or loose stool, lasting a period of 1 week.
- Patients who take high dosages of vitamins or minerals should reduce them to a minimum dose, as LC Balancer improves the absorption and can cause an overdose. Symptoms of minerals or vitamins overdose include agitation, restlessness, metallic taste, flu-like symptoms, feeling of depression or high blood pressure.

Medium Patches	**Large Patches**
Tennis Elbow Golfers Elbow Carpal Tunnel Syndrome Patellar Tendinitis Plantar Fasciitis	Achilles Tendinitis Hip Tendinitis Rotator Cuff Tendinitis

Selected Case Studies

<u>Case 1: Successful Healing of Medial Lateral Epicondylitis (Tendinitis) in Both Elbows</u>

C.A. Diede, DC, South Dakota

A male patient, age 53, suffered from tendinitis (golfer's elbow) in both elbows for a number of years. The patient experienced severe pain (level 8 out of 10) that was sharp whenever the muscle was contracted. Temporary relief was achieved through proper chiropractic treatment (adjustments, soft tissue therapy, ultrasound, massage). However, the pain kept coming back. In addition, the medial side of the right arm had been itching over the years indicating the presence of metabolic toxins. The patient required physical strength to be able to perform in his profession.

Dr. Diede recommended the patient start a wellness program using Wei Laboratories FASTT Patches. The right arm was treated with three patches on the inside and three on the outside of the elbow (a total of six patches for nine days). The left arm received six patches on the inside as well as four patches on the outside of the elbow. The program was not implemented at the same time for both arms.

The results were amazing. The pain had been completely eliminated after a few months. The results have sustained ever since. The application of the FASTT Patches saved the patient from potential disability and restored his capability of performing his work. There is a clear trend towards complete recovery.

Case 2: Successful Herbal Treatment of Chronic Biceps Tendinitis

Thomas Kriczky, DC, Pennsylvania

A female patient, age 79, suffered from chronic biceps tendinitis. A medical exam and a radiographic test had ruled out a tear. Ultrasound and electric muscle stimulation treatment had not yielded substantial results. A cortisone injection given by the orthopedic provided very little benefit. Her pain level had been severe (7 out of 10).

She came to Dr. Kriczky who recommended a program composed of FASTT Patches and chiropractic adjustments. The program lasted for 20 days with two sessions each week. The wellness plan achieved a 75% reduction in pain. The patient experienced a continual decline in pain for the following weeks. The results have been sustained ever since.

Case 3: Successful Resolution of Carpal Tunnel & Thoracic Outlet Syndrome

Jay Marienthal, DC, Florida

A female patient, age 31, came to Dr. Marienthal as she had been diagnosed with carpal tunnel syndrome and thoracic outlet syndrome. As a dental assistant, the patient had to perform fine manual work on a daily basis. As a result, she suffered from numbness, weakness and pain in both of her hands and wrists. The pain level was severe (10 out of 10).

Dr. Marienthal recommended a program composed of chiropractic adjustments, soft tissue work, Kinesio tape, FASTT Patches, vitamins (e.g. Standard Process and APEX), and muscle strengthening exercises for both arms and hands. The program lasts around two months (two sessions during the first week, once a week thereafter).

So far, the outcome has been truly positive. The pain level has been reduced to 4 out of 10. The numbness has disappeared and the muscle strength improved. It is hypothesized that the pain will have diminished once the program is completed.

Case 4: Successful Pain Relief from Plantar Fasciitis

Lisa Dulac, Lac, Maine

A female patient, age 40, had been suffering from plantar fasciitis as a result of working on her feet all day. Medical doctors and physical therapists had told her that the pain would eventually resolve itself on its own. However, nothing seemed to be working.

Lisa Dulac began treating the patient using acupuncture sessions and Wei herbal patches. The program lasted a total of five sessions over a span of two and a half weeks. The patient's pain was resolved by approximately 20% after the first session. By the end of the sixth session, the patient experienced no pain. A year afterward, the patient still has relatively no pain in her feet. The patient is ecstatic with the results and has told others about Lisa Dulac and her practice.

Case 5: Successful Resolution of 25 Soccer Players Against Acute Tendon Apathy

Marco Cazares, DC, Indio, California

The following study presents a clinical review of 25 patients (soccer players) with lower extremity Tendon Apathy. Of this sample, 14 patients were seen for acute medial collateral tendinitis and 6 patients came for acute Deltoid ligament strains. The remaining 5 patients suffered from knee patella tendinitis associated with the Osgood-Schlatter syndrome. A review of all patients yielded the following common symptoms:

1. Tenderness
2. Joint effusion and edema
3. Decreased joint motion by at least 40%
4. Pain with active motion and weight bearing

Based on radiologic findings, 95% of the injuries (with the exception of three cases) proved to be normal. Positive cases revealed avulsion fractures with non-displacement.

All 25 cases have been submitted to a trial therapy using ice packs and taping orthopedic support. Every patient in the sample was prescribed six FASTT Patches over a two-week time period (two days using the patch, one day without). No other physical therapy was performed.

All 25 patients obtained very good to excellent responses after the first week. For 76% of the patients, two patches were sufficient for almost complete symptom resolution. For 24% of the sample, four patches almost completely resolved all symptoms. It is noted that the use of FASTT Patches for the treatment of acute tendon apathy is a promising wellness plan for all physicians who encounter this condition.