Wei Laboratories | History Science Health

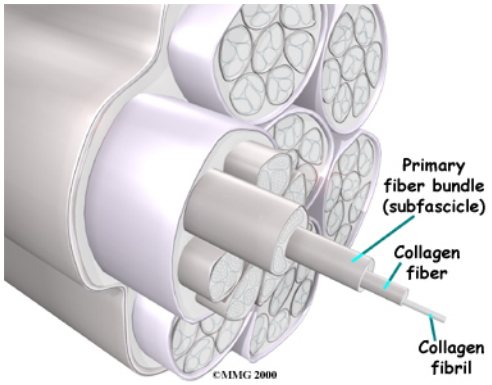
Ligament and Muscle Tear (Sprains and Strains)

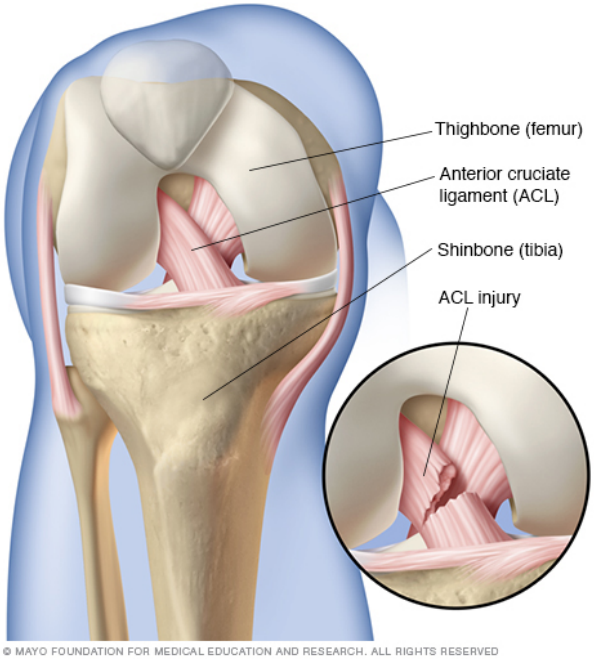
0318-03

Ligaments are the connective tissue made up of collagenous fibers that attach bone to bone. Ligaments main function is to stabilize joints and help with range of motion when a tensile force is applied to the body. A ligament sprain with a partial or complete tear often occurs when there is a traumatic joint injury. The process to heal a ligament tear can be divided into three stages. In the first stage, the ligament ends retract and a hematoma is formed. In the second stage, scar tissue is formed by fibroblastic cells over the course of a few weeks. The third stage consists of matrix remodeling in which the scar tissue is replaced by proteoglycan and collagen. Due to this remodeling, ligament injuries exhibit a slow recovery process. Ligament injuries are most common in the ankles, wrists, shoulders including AC joint separations, and knees including the anterior cruciate ligament (ACL) and the medial collateral ligament (MCL). Depending on severity, ligament injuries can be classified into three degrees.

A **first-degree** sprain is the least severe and there is typically little tearing, pain or swelling, and joint stability is still good. It usually takes 1-2 weeks for the injury to heal.
A **second-degree** sprain has the broadest range of damage with moderate ligament tear, moderate instability and moderate to severe pain and swelling. Recovery may take 3-6 weeks.
A **third-degree** sprain is the most severe as the ligament is completely ruptured, the joint is unstable and there is severe pain and swelling. Other tissue can often be damaged as well. These types of sprains often need surgical repair. Recovery for this kind of sprain is much longer, requiring 8-12 months for the ligaments to fully heal.

Ligament Structure





Traditional First-Degree Sprain Healing Timeline

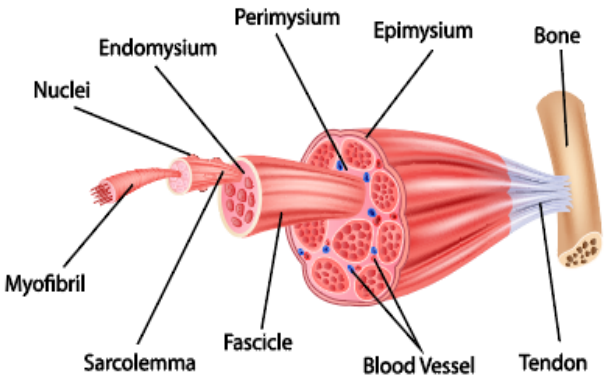
1-2 weeks

Traditional Second-Degree Sprain Healing Timeline

3-6 weeks

Skeletal muscles are connected to tendons that attach to the bone and consists of an arrangement of fibers. Each muscle fiber is made up of cylindrical muscle cells called a myofibril. Due to the abundant amount of blood supply and nerves in the area, muscles can perform their primary function of contraction allowing for weight bearing and skeletal movement. Muscle tears occur when there is damage to the muscle fibers due to overloading the muscle or fatigue from sustained postures. The normal healing process of a muscle tear also occurs in three stages. In the first stage, the ruptured myofibers contract and the gap is filled in with blood forming a hematoma. In the second stage, myogenic reserve cells and satellite cells are activated and begin repairing the damaged myofibers. Within 5 days to 1 week, the ruptured myofibers are replaced with the new regenerating myofibers. In the third stage, the regenerated myofibers mature and the remodeling phase is complete. Muscle tears are most common in the hamstrings, quadriceps, calf, and back.

Muscle Structure

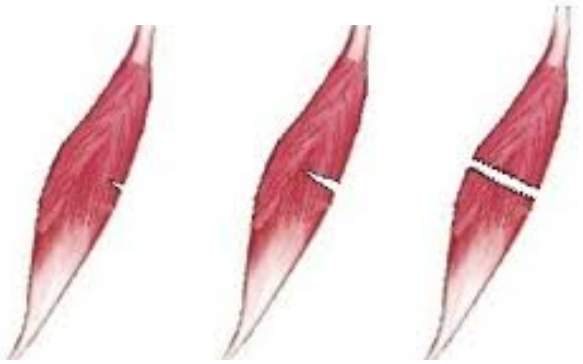


A **first-degree** strain indicates the least severe damage with little muscle tearing and mild tenderness. There is also mild pain with full range of motion. Recovery time is about 2-3 weeks.

A **second-degree** strain occurs when the muscle has been torn and about 80% of tissue fibers have been ruptured. There is usually more pain, edema, and bruising; range of motion is also significantly reduced. There is normally swelling caused by the broken blood vessels in the area. Typically, it takes 2 to 3 weeks to have any improvement in the pain and swelling and 3-6 weeks for full recovery. It is common for athletes to resume their activity too soon afterward and easily becomes a third-degree injury.

A **third-degree** strain indicates that the muscle tissues have been ruptured completely and the area of the body is no longer functional. There is usually visible bruising, pain, and the possibility of an avulsion fracture in which there are pieces pulled from the bone. These types of strains often need surgical repair. With a complete rupture, it takes at least three months of rehabilitation after surgery to achieve healing.

Types of Muscle Tears



Mild Moderate Severe

Traditional First-Degree Strain Healing Timeline

Traditional Second-Degree Strain Healing Timeline

Wellness Recommendations

The FASTT Patch is recommended to help speed up the healing process of sprain and strain injuries by increasing localized blood flow. When blood vessels break due to an injury, it makes it difficult for the nutrients to be delivered that are necessary for repair. By increasing localized blood flow, the FASTT Patch increases the supply of those nutrients allowing the area to heal quickly. The FASTT Patch also increases localized lymphatic circulation, therefore, reducing inflammation and in turn allowing more of those nutrients to enter the injured area. The herbal ingredients of the FASTT Patch also increases localized temperature allowing for the biosynthesis of new collagen for tendon and ligament repair and myofibers for muscle repair almost instantaneously upon application of the FASTT Patch to the injured area. With the FASTT Patch, a second-degree sprain or strain, which usually takes up to 6 weeks to heal, can be healed in a week or less. Also, with the use of the FASTT Patch patients will get the proper healing needed with no rehabilitation, therefore, will not be susceptible to another injury or future problems.

First-degree sprain and strains – 2-day program

The wellness recommendation for first-degree sprain and strains includes one FASTT Patch. These acute ligament or muscle injuries can be healed in less than two days and allow for pain relief in one day.

Second-degree sprains and strains – 5 to 7-day program

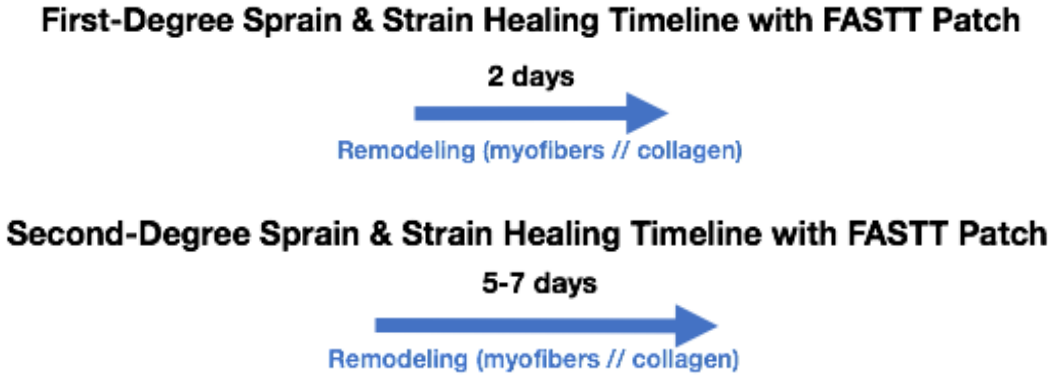
The wellness recommendation for second-degree sprain and strains includes two to three FASTT Patches. Second-degree muscle and ligament tears that are in acute conditions can be healed in 5-7 days.

Third-degree sprains and strains – post-surgical program

Unfortunately, the FASTT Patch cannot help heal the injury after the soft tissue has fully ruptured. However, 6 FASTT Patches can be used to speed up the post-surgical healing process.

Post-healing scar tissue – 17 day program

The prompt use of FASTT Patch helps avoid scar tissue formation after the healing. However, if there is already scar tissue due to the delayed application of FASTT Patch, 6 WHITEE Patches are required to dissolve the scar tissue.



Usage Information

FASTT Patch
WHITEE Patch

- Keep the patch on for 48 hours (2 days) 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 to dilate the blood vessels of the muscles.
- Use vegetable oil to remove possible herbal residue on the skin.
- Use Aloe Vera Gel if there's skin irritation or use Bitter Formula.
- Use Oxi-Clean or Biz to remove stains from clothes.

Selected Case Studies

Case 1: Second-Degree Ankle Sprain Healed in Under a Week
James Guetzkow, MD FP, Los Gatos, California

A young triathlon athlete injured his right lateral ankle in December. He was seen at the ambulatory care center of Kaiser Hospital in Santa Clara, the following day, where an x-ray was taken and a second-degree lateral inversion sprain was documented. The x-rays were negative for fracture. He was given a walking boot brace and told to wear it for six weeks.

The patient was seen in my office five days later, as he had learned of the FASTT Patch, and hoped this would help an early return to his sport. On examination of the right lateral ankle it was ecchymotic and swollen both above and below the right lateral malleolus. The first FASTT Patch was applied and kept on for 48 hours.

He returned to the office four days later and reported that he had been able to resume his exercise and, in fact, earlier that day had bicycled for 45 minutes without any pain. He had noticed that the swelling had gone away, the pain had virtually cleared, and he no longer needed the boot brace. On examination, the area of application no longer had any swelling, and there was no laxity of effusion of the ankle joint noticed. The bony prominences were non-tender. He was walking without a limp and stated that he had been active throughout the week in his usual way, with his usual work, and had not spent time with the foot elevated. My impression was that this was a severe sprain with soft-tissue injury, partial tear of the lateral collateral ligaments, and a joint effusion. I was extremely impressed by the rapidity of clearing and return of function that occurred in just four days after the FASTT Patches were utilized.

Case 2: Accelerated Healing of an Acute Back Strain in 1 week
Bruce A. Magill, D.C., Irving Texas

I was playing basketball and as I went up for a rebound, I was hit from behind hyper-extending my low back and spraining my left SI joint. It took everything I had just to get to my feet and get home. That night I could not sleep as every time I moved the pain woke me up. About 5 a.m. I drove to my office and hobbled in to get a FASTT Patch. After I applied it and returned home I was finally able to rest. In about 4 hours the pain was reduced by at least 50%. I wore the patch for 48 hours, took 24 hours off and placed a new one on for another 48 hours. In one week, I was 90% better and now am completely recovered.

What impressed me the most is the speed and depth of the recovery. I have a grade 3-4 spondylolisthesis. With chiropractic care, clinical nutrition, and exercise, this condition seldom bothers me but it is very easily injured. It has been many years since I had any problems but I was very concerned with this episode. Your product really works.

Case 3: FASTT Patch Healed a 6-Week-Old Muscle Strain in 5 Days
Domenico Manconi, PT, Sydney, Australia

A patient presented to me with a first-degree muscle strain in his thigh. I had been treating his leg with soft tissue massage and I also had the patient do rehabilitation exercises to strengthen the area but after 6 weeks the thigh was still not responding. I decided to use the FASTT Patch on the patient's thigh and continue the exercises in between. With the use of just 2 FASTT patches the injury was completely healed in 5 days. The results were amazing and the patient is now continuing playing sports with no pain.

Case 4: Successful Healing of Severe Ankle Sprain
Salvatore & Cynthia Migano, DC, Charelston, South Carolina

A female patient, age 28, came to my office seeking treatment for a severe ankle sprain at her left foot. The patient had been identified with significant swelling (half inch pitting edema) as well as substantial bruising from her last three toes spanning four inches up the cast. Her pain level was at the maximum (10 out of 10). She had to come in crutches and could not put any weight on her foot. Prior to her visit she had consulted with her general practitioner who tried icing and drugs (Ibuprophen) but none of this had helped and she had been told to go through six weeks of agony.

Dr. Mignano suggested using 3 FASTT patches for six days straight (2 days per patch). The results have been truly positive. Upon completion of the three FASTT patches, the swelling had been completely eliminated and the bruising had been almost removed as well. The remaining pain level was at 1-2 out of 10 and cleared within one more week.

Case 5: Successful Healing and Quick Recovery of Sports Injury
Peter & Roxayne Veasey Redmond, DC, Exton, Pennsylvania

A male patient, age 12, came for treatment due to a sprained ankle from playing soccer. His right foot was swollen and he could not put any weight on it. The patient walked in with crutches and his parents helping him. The patient was seeking a quick recovery as a soccer tournament was approaching very soon.

Dr. Redmond applied the first herbal FASTT Patch on his ankle at the beginning of the visit, which lasted an hour in total, and gave the patient a second FASTT patch for subsequent treatment.

The immediate result from the first FASTT Patch was amazing. The boy walked out of Dr. Redmond's practice after one hour without crutches and any help from his parents. He came for this one visit only without any need for maintenance afterwards. Two days later he played in the soccer tournament.