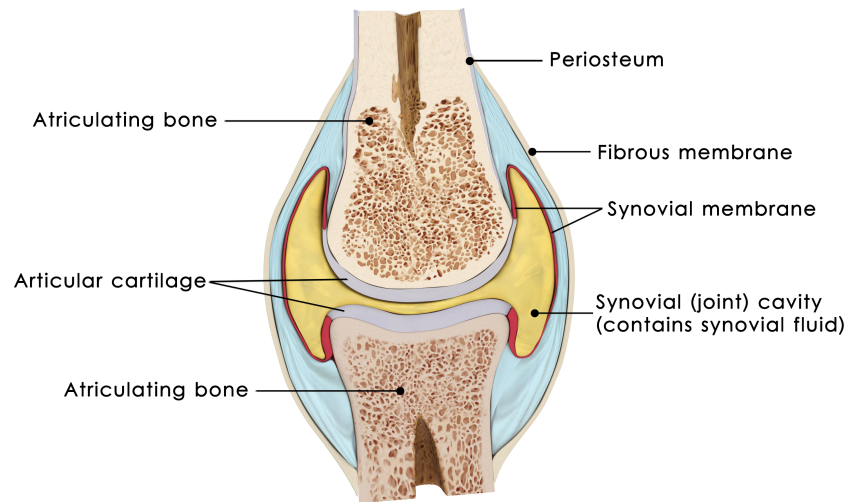


**Cartilage** is the connective tissue that prevents the ends of bones from rubbing against each other. Cartilage is composed of chondrocytes and extracellular matrix (ECM) components that consist of the cartilage-specific proteoglycan aggregate, called aggrecan, and type II collagen fibrils. These components of the ECM are critical for its mechanical properties. The high concentration of charged sulfate groups in the proteoglycans allows for resistance to pressure from skeletal movement. The glycosaminoglycan chains within the core protein of aggrecan are responsible for the high structural integrity that allows cartilage to resist compression. The type II collagen fibrils of the ECM create a mesh framework and allows for resistance to tensile stress.

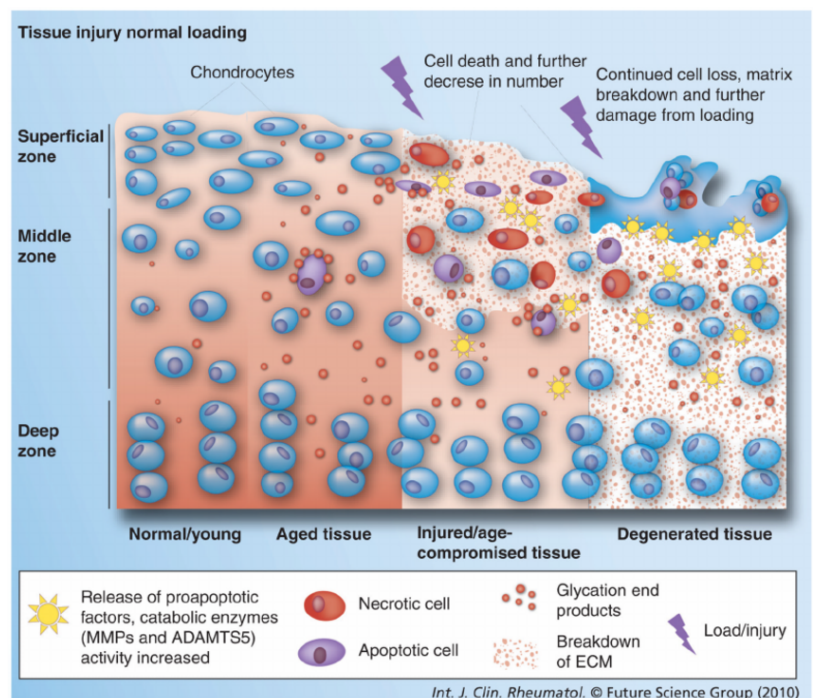


### Metabolism of cartilage:

Since articular cartilage does not contain blood vessels it obtains nutrients from the synovial fluid via diffusion across the synovial membrane, thus the permeability of the synovial membrane is important. Synovial fluid is derived from blood plasma. It contains proteins from the blood plasma and proteins produced by B cells within the joint tissues. B cells within the synovial lining produce hyaluronic acid. Hyaluronic acid is important for the viscosity of the synovial fluid and also acts as a barrier that prevents infectious agents from passing through into the cartilage while allowing metabolites to diffuse in. Therefore, the permeability of the synovial membrane and the hyaluronic acid concentration are important for healthy cartilage. The other component of cartilage, proteoglycans, are secreted into the ECM by chondrocytes. Chondrocytes are highly specialized cells that are vital for the development, maintenance, and repair of the ECM. The chondrocytes both synthesize and catabolize the macromolecules of the ECM. Since chondrocytes have limited potential for replication, when they become damaged due to an injury, over time fewer chondrocytes will be available to produce the needed macromolecules that make up the ECM leading to a vicious cycle of deterioration.

### Causes of cartilage degradation:

The components of cartilage maintain a balance due to both the degradation and the synthesis of collagen fibers and proteoglycans. This balance, or equilibrium, is affected by multiple factors. One factor includes an injury that leads to damaged and inflamed cartilage tissue which releases pro-inflammatory cytokines into the synovial fluid. These cytokines stimulate chondrocytes to produce matrix-degrading enzymes such as metal-dependent matrix metalloproteinase (MMP) and aggrecanases, a type of proteolytic enzyme that breaks down aggrecan and affects the structure of the ECM.



Inflammation also affects the permeability of the synovial membrane which disrupts the diffusion of nutrients into cartilage.

Chondrocytes are organized in a very specific way within healthy articular cartilage. Long-term physical and mechanical stressors (obesity, joint malalignment, muscle atrophy, etc) can lead to changes in the arrangement of the ECM and the organization of the chondrocytes. Aggrecan, the core protein of cartilage proteoglycan, contains a number of glycosaminoglycan chains. Long-term physical and mechanical stressors alter the glycosylation of aggrecan, making it easier for aggrecanases to cleave the core protein, cause chondrocytes near the synovial fluid to dissipate and lead to further degradation of the ECM. Also, since the ECM is composed mainly of water the hydrostatic environment is crucial when it comes to mechanical stressors and load from the body. With long-term physical and mechanical stressors, the ECM begins to lose its hydration which affects the integrity of the cartilage and leads to tears and deterioration. Continuing and extensive cartilage degradation can lead to osteoarthritis.

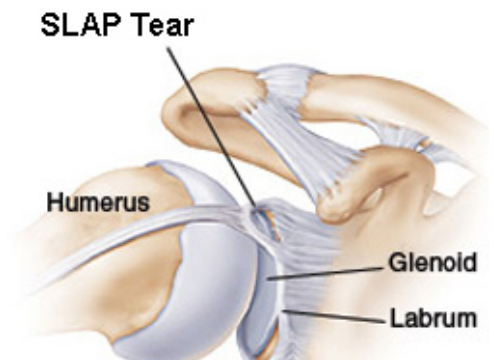
Several studies have shown that a meniscal tear can lead to knee osteoarthritis. Meniscal injury induces intermediate inflammatory changes in the synovium, which may lead to mild to moderate synovitis. The inflammation in the knee may damage the bone, causing it to become thicker around the edges of the joint and possibly form bony 'spurs' It can also strain the ligaments in the knee, as well as cause chronic joint pain, stiffness and restricted range of motion, which can intensify in cold, damp weather, or while exercising.

### **Common cartilage tears:**

Meniscal Tear: The meniscus is a small crescent-shaped piece of cartilage within the knee. It lies between the thigh (femur) and the shin (tibia). The main role of the meniscus is to act as a shock absorber and a cushion between the bones. Without the meniscus, the knee is subject to premature joint degeneration. A tear in the meniscus can occur due to multiple reasons, one being an injury. The twisting motion of the knee, while the foot is still planted on the ground, can lead to a tear. Degeneration of the cartilage tissue due to long-term physical and mechanical stressors can even cause tears under simple load conditions.

Hip Labral Tear: The hip joint is a ball and socket joint that contains a fibrocartilaginous structure that outlines the socket, called the acetabular labrum. The labrums main function is to act as a shock absorber, pressure distributor, and provide lubrication for the joint. Tears in the labrum can be caused by trauma, dysplasia, and degeneration. Most tears occur in the anterior portion of the labrum due to a low vascular supply compared to the posterior region. This makes the anterior portion more susceptible to wear and tear without the ability for repair.

Shoulder Labral Tear: The labrum is a ring of fibrous cartilage attached to the edge of the glenoid, commonly called the glenoid labrum. The function of the glenoid labrum is to enhance shoulder stability. A tear, often called a SLAP (Superior Labrum Anterior and Posterior) tear, can be caused by trauma, repetitive overhead activity, and cartilage degeneration. The blood supply to the labrum decreases with long-term physical and mechanical stressors.



Chondromalacia Patella: The cartilage behind the kneecap (patella) deteriorates and softens. This degeneration can occur from wear and tear, traumatic injuries, and aging. Due to this softening, it then results in the tearing and erosion of the hyaline cartilage. Anterior knee pain frequently occurs in patients with chondromalacia patella and is often made worse by activities that increase stress on the patellofemoral joint. The hyaline cartilage is an avascular structure, meaning it needs a blood supply in order to heal. As stated earlier, this type of cartilage does not contain blood vessels and relies solely on the diffusion of nutrients hence repair is difficult.

**Wellness Recommendations:**

The WHITEE Patch and LC Balancer are recommended to help increase vascularity and bring in the necessary building blocks for cartilage for repair. The WHITEE Patch increases local temperature and metabolic reactions for effective damage repair. This local temperature increase allows for the biosynthesis of proteoglycans in cartilage tissue. The WHITEE Patch also contains herbs that operate synergistically to increase blood flow in order to enhance nutrient supply for cartilage regeneration. In addition, the WHITEE Patch helps improve lymphatic circulation which reduces inflammation leading to decreased MMP activity and normalizes permeability of the synovial membrane. Increasing the biosynthesis of proteoglycans and increasing localized blood flow will help to accelerate the healing mechanism essential for recovery. The herbal ingredients in the WHITEE Patch also help facilitate the proliferation of chondrocytes and decelerate the inflammation of the knee joint induced by inflammatory factors including interleukin (IL) and tumor necrosis factors (TNF). The LC Balancers role is to open the smallest blood vessels to improve whole-body microcirculation and accelerate healing time.

***Mild to Moderate Conditions – 1 Month Program***

The wellness recommendation includes 6 Large WHITEE Patches and 4 LC Balancers. Mild to moderate conditions are considered to be recent injuries/tears. Patients should notice symptom improvement within 2 weeks of starting the protocol.

***Severe Conditions – 1 Month to 3 Months Program***

The wellness recommendation includes 6 Large WHITEE Patches and 4 LC Balancers. A continuous 3-month program may be needed due to the severity of the condition and to achieve sustained results.

***Soft Tissue Injury – 4 to 6 Week Program***

For conditions involving a soft tissue (muscle, tendon, ligament) injury, the wellness recommendation includes the WHITEE Patch, FASTT Patch, and LC Balancer. It is recommended to alternate the use of the FASTT and WHITEE Patch.

**Usage Information:**


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 WHITEE Patch
 

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 FASTT Patch
 

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- 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

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 LC Balancer      1 tsp, 3 times a day // 3 capsules, 3 times a day
 

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

## **Selected Case Studies:**

### **Case 1: Successful Pain Reduction of Torn Meniscus in Left Knee**

Scott Rothman, DC, Wayne, Pennsylvania

A 46-year old male patient was diagnosed with a torn meniscus in his left knee in 2004. The patient went through various sources of treatment including ultrasound, electric muscle stimulation, acupuncture, flexibility and strength, and exercise. The patient found his functional improvement amounted to about 50% after a four-week treatment. All treatments thus far had failed to deliver complete relief.

In hopes of achieving complete pain reduction, the patient started to use WHITEE Patches from Wei Labs. Within minutes of using the first patch, the patient felt the pain level was reduced by at least 50%. After two weeks of using the WHITEE patches (6 patches, 2 days on, 1 day off) the patient had regained 90% functionality (90% of the time the patient felt 100% pain free and 100% functional). The patient was then put on a maintenance care program which included 1 WHITEE patch a month right over the meniscus whenever he felt some irritation. The results have sustained ever since (for 7 years now).

### **Case 2: Successful Pain Elimination for 4 Years with a Medial Meniscus Tear**

Steve Gershman, DPM, Auburn, Maine

Dr. Gershman, a 58-year old male, was diagnosed with a left knee medial meniscus tear in 2006. He suffered substantial pain and swelling. Two independent orthopedics suggested knee surgery (arthroscopy) to remove the remaining cartilage. Dr. Gershman decided not to proceed with the surgery because he felt it did not address the root cause of the injury.

As an alternative, Dr. Gershman went on a 6-week treatment protocol using a combination of WHITEE patches and LC Balancer. The result had been phenomenal. With just 6 weeks of treatment, symptoms didn't reappear until 4 years later. Dr. Gershman had been working out this entire time for 2 to 3 hours a day (7 days a week) without any pain or swelling. He's able to brisk walk with an elevated treadmill as well as continue to weight train. He's currently applying a second round of protocol.

### **Case 3: Successful Pain Relief of a Torn Meniscus in 2 Weeks**

Walter Ostrowski, DC, Yonkers, New York

A male patient, 42-years old, has a history of knee pain and knee locking. He was diagnosed with a torn medial meniscus as confirmed by an MRI. The patient used 6 WHITEE Patches over the course of 2 weeks and was able to resume running and playing soccer pain free.

### **Case 4: Successful Pain Reduction of Chondromalacia Patella in 2 Weeks**

Elizabeth Galaif, MD, Larkspur, California

Dr. Galaif had a patient suffering from severe inflammation and chronic pain due to Chondromalacia Patella. The patient was recommended a two-week program of 6 Medium WHITEE patches to increase blood flow, enhance nutritional supply, and decrease inflammation through improving the lymphatic circulation. The patient experienced a dramatic decrease in pain and inflammation with just 6 patches. The patient was recommended another two-week therapy in order to see sustained results.

### **Case 5: Successful Resumption of Activities from Bone-on-Bone Osteoarthritis and Torn Meniscus**

Susan Russell, PH.D., LAc, Marietta, Georgia

A female patient of Dr. Russell was diagnosed with Bone-on-Bone Osteoarthritis and a Torn Meniscus. Dr. Russell suggested the patient start with a two-week program of 6 Medium WHITEE patches to enhance nutritional supply for cartilage regeneration and LC Balancer to improve microcirculation in combination with her chiropractic

modalities. Within two weeks of the program, the patient reported that she was experiencing less pain and was able to walk down the stairs without discomfort. Dr. Russell recommended another round using the Large WHITEE patches, in hopes of covering the entirety of the meniscus and cartilage tissues. After the second round of the program, the patient reported that she was able to resume normal physical activities and mentioned that she could walk normally.

#### **Case 6: Successful Pain Reduction of a Labral Tear**

Dionne McClain, DC, Los Angeles, California

A 42-year old female patient had been diagnosed with a labral tear in her shoulder. She suffered from severe pain (8 out of 10) as well as limited range of motion. She had stopped exercising due to her injury. Prior to the injury, the patient had been very active (exercising 3-4 times a week). She had been advised to consider surgery from her orthopedic surgeon and came in for an alternative resolution in November of 2010.

Dr. McClain recommended a holistic solution consisting of chiropractic adjustments, herbal remedies (alternating FASTT and WHITEE patches), ultrasound and myofascial release for a length of four weeks (2 sessions per week).

After four weeks, the patient reported that her range of motion was extended to its normal extensity. The patient's pain level was almost eliminated. She experienced a pain level of a 2 out of 10 only in certain direction-specific arm movements. The patient is able to resume exercising. Dr. McClain recommended her to continue the program in order to see sustained results and complete pain elimination.