



Riordan
Clinic

Health Hunters

May
2022

Vol. 36
No. 5

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Case Study

A 56-year-old male presents to the office for a second opinion. He has had debilitating pain in his knees for ten years and lives an active lifestyle as a farmer. His primary doctor has referred him to an orthopedic specialist for knee replacement. Unfortunately, he will miss all of the harvest season and may need a second knee replacement in 10-20 years, as the knee replacements are not meant to sustain his lifestyle. So the patient visited our Hays location for regenerative injections. He was treated with four rounds of regenerative platelet-rich plasma knee injections, resulting in pain relief and the ability to participate in harvest. His story is not the only one with a successful ending. We help dozens of patients each month heal their bodies with regenerative injections, including those referred for surgery.

ARTHRITIS, INJURIES, AND PAIN



AUTHOR

Dr. Dustin Moffit, ND



Riordan Clinic is a world-renowned, academic medical center that has led the world in integrative oncology and complex chronic illness care since 1975. The Riordan Clinic was established as a 501 (c)(3) non-profit organization with missions in research, provider education, and patient education. The Health Hunter newsletter has been published since 1986 as an educational resource to providers and patients.

Arthritis is the inflammation that occurs at the level of bone. Over years of poorly controlled inflammation, our bones can start to break down and lead to osteoarthritis. While many have a negative association with the word “inflammation,” it is a very crucial process used daily for our body to heal itself from acute trauma, like stubbing a toe on the couch, hammering our finger instead of a nail, or touching a hot stove. Does this mean that all inflammation is a bad thing? No, it is a necessary part of healing all our wounds! Think of short-term inflammation as a way to clean up the damaged area and prepare it for healing and regeneration.

Continued on pages 2 & 3

What Causes Arthritis?

Many factors can contribute to the onset of arthritis. Arthritis can be caused by physical injuries that never had an optimal chance to heal, infections, gout, food allergies, metabolic disorders, diabetes, poor circulation, nutrient deficiencies, hormone imbalances, and environmental toxins, to name a few. If all or even most of these issues were addressed, could the body heal well on its own? Absolutely. The body first enters hemostasis through a wound healing cascade, blocking any additional blood loss through coagulation or blood clotting. The second phase of the wound cascade healing process is the inflammatory phase. This phase peaks 24–48 hours after an injury and is responsible for removing any damaged tissue or debris from the injury. The third phase is the proliferative phase, where the wound is filled with new nutrients and covered with new tissue. This phase may last up to 24 days in acute injuries. Finally, the wound healing cascade completes its cycle with maturation, where the new tissue gains strength and flexibility from surrounding structures and new collagen is formed.

Most Common Types of Arthritis

The most common non-inflammatory types of arthritis are osteoarthritis and degenerative disc disease.¹ The most common inflammatory arthritic type is rheumatoid arthritis.¹ Osteoarthritis can be age-related or induced from an old injury. Rheumatoid arthritis has an underlying autoimmune issue that leads to attacking the joints. Another common type of arthritis is acute inflammatory arthritis, or infectious arthritis, which is often due to metabolic waste build-up or localized infection—both of these need to be addressed quickly to reduce total damage done in the affected joints.

What Prevents Healing Naturally?

Malabsorption and malnutrition can be leading causes of nutrient deficiencies. Primary nutrients needed to promote the healing of ligaments, tendons, and bones include protein, vitamin A, C, D, E, and minerals.² Primary nutrients needed for inflammation control include essential fatty acids,³ vitamins A,⁴ C, D, E,⁵ glutathione, carotenoids,⁶ etc. Protein⁷ is necessary as amino acids are the primary building blocks of tendons, ligaments, and bones. Vitamin C plays a crucial role in collagen production, and chronic vitamin C deficiency leads to the weakening of tendons and ligaments by preventing collagen synthesis. Vitamin E reduces inflammation and may help to minimize tendonitis. Vitamin A is essential in cell division, collagen renewal, and tissue repair.⁸ Minerals such as calcium, manganese, and copper are vitally important in the structure of bone material and are needed in trace amounts for the development of tendons. Vitamin D is important in utilizing calcium in the bones and acts as a pro-hormone that may contribute to muscle growth.⁹

Arthritis and NSAIDs

Studies suggest that NSAIDs such as ibuprofen adversely affect bone physiology by delaying bone healing.¹⁰ In addition, NSAIDs, specifically COX-2-selective inhibitors, negatively impact soft-tissue healing.¹¹ Despite these findings, we are still being told to take these medications by healthcare providers, or are encouraged by advertising to self-medicate. The wide use of these products contributes to chronic pain and arthritis development by not allowing our bodies to do what it is naturally good at, healing.

What Causes Injuries to Occur?

The leading cause of injuries is improper body mechanics and overuse. If you are constantly sore after doing activities or work, then odds are you are overusing the affected area and not allowing ample conditions for healing. The most common type of shoulder injury is a



torn rotator cuff or tendon tear. These injuries often result from improper positioning that overextends the shoulder in a forward reach outside the scapular plane. Low back injuries often occur due to flexion of the spine while lifting or torsional stress (turning and lifting). Knee pain is usually caused by meniscal injuries, patellar chondromalacia (kneecap degeneration), or ligament tears. To avoid knee pain, warm-up before significant activities, stretch muscles, do not plant the foot and turn, avoid kneeling without protecting your knees, and avoid jumping out of high areas.

Managing Injury or Arthritis Pain

Options to manage pain are vast and can vary from simple at-home remedies to those handled by health care providers. Immediately following an injury, when large amounts of swelling or pain are present, it is okay to ice. However, applying ice 30 minutes or more after an injury may delay healing.¹² If the pain is manageable, then let your body do its thing. However, if the pain is too much, there are natural and pharmaceutical options to regulate pain. NSAIDs and acetaminophen are common over-the-counter medications to help with pain and swelling. They help with the pain but at what cost? Is the short-term pain reduction worth the potential long-term pain from an unhealed injury? Natural pain reducers can include fish oil, Boswellia, turmeric, and serrapeptase. In cases of bone fractures, complete tendon ruptures, and eroded bone, surgical revision or replacement may be the best option. For pain options that may be covered by insurance, a local corticosteroid injection is often a first-line agent that tends to help the pain almost immediately, and can last up to 6 months before a repeat is needed. Still, after a while, patients tend to yield fewer results. Corticosteroids may stop inflammation, but without inflammation, we may increase degeneration.¹³ Choosing to work with personal trainers, physical therapists, occupational therapists, and massage therapists can help reduce pain,¹⁴ increase mobility and strength, and avoid the need for further treatment.

Regenerative Injection Therapies

Regenerative injections utilize natural healing processes to help rebuild injured tissues,¹⁵ including ligament, tendon, and articulating cartilage on bone. These therapies also manage pain by addressing the underlying or contributing causes versus the symptoms. Regenerative Injection Therapies are injection-based modalities that target the injury directly by providing nutrients and attention. This shuts off the pain receptors, decreases long-term inflammation, and promotes natural healing. Therapies include; Stem Cells, Exosomes, Platelet Rich Plasma (PRP), Dextrose Prolotherapy, and Prolozone. Regenerative injection therapies are excellent tools for treatment that allow most individuals to return to normal activity following treatment with little to no downtime. The best time to treat with regenerative injections is at the first sign of injury, before an injury becomes complete. For example, complete tendon ruptures need surgery. Anything less than 80% tear has the potential of healing.



Summary

According to the Arthritis Foundation, 54 million individuals are living with arthritis in the US today.¹⁶ The pain and discomfort can be debilitating and disruptive. Conventional treatments help with the pain, but may interfere with the healing process leading to further degeneration. Natural interventions address the pain and discomfort while encouraging healing from within. When combined with proper diet and exercise, natural interventions may help control inflammation, slow or reverse degeneration, and return function to the affected joints.

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INFLAMMATION PROFILE

The Riordan Clinic Inflammation Profile can provide you and your healthcare provider with vital information to identify any deficiencies that could increase your risk of inflammation and any current problems that need attention. Important measures in your report will include:

- **C-reactive protein (CRP)** is a marker for inflammation, including arterial inflammation.
- **Antioxidants** such as vitamins A, C, and E are found in many fruits and vegetables and can be taken as a supplement.
- **Essential fatty acids** are fats that the body is unable to make on its own and must be ingested through food or supplements and are connected to the inflammatory process.
- **Blood glucose (Hemoglobin A1c)** is a marker for type 2 diabetes.



Hover your phone camera over the QR code to find more information about the Inflammation Profile.



CHINESE MEDICINE PERSPECTIVE ON ARTHRITIS

This article is a summary of *The Practice of Chinese Medicine: The Treatment of Diseases with Acupuncture and Chinese Herbs*.



AUTHOR

Leah Chischilly, D.Ac., L.Ac.



**“Where there is no movement, there is pain.
Where there is pain, there is no movement.”**

A quick Google search will give you any number of variations of this quote, likely credited to multiple different sources. I have no idea who said it first, but whatever the origin, it gives great insight into the philosophy of acupuncture as a treatment modality for arthritis or any pain condition.

Acupuncture and Traditional Chinese Medicine

Acupuncture is one component of Traditional Chinese Medicine (TCM), a vast system of lifestyle medicine that includes interventions such as nutrition, exercise, herbs, and acupuncture. It views health as a balance between Yin and Yang and a continuous flow of Qi (pronounced Chee) through the body. Fully defining the concepts of Qi, Yin and Yang are beyond the scope of this article, but a focus on the big picture is all you need.

Yin and Yang in balance = homeostasis, health. Free-flowing Qi helps keep Yin and Yang in balance.

Painful Obstruction Syndrome

In TCM, conditions like arthritis are called Bi Syndromes or painful obstruction syndromes. As the name implies, the flow of Qi becomes obstructed, and when it persists for long enough, pain and other symptoms appear.

TCM theory suggests that climatic factors give rise to Bi Syndromes. Wind, Heat, Cold, and Dampness are considered pathogenic. Excessive exposure to any of these factors allows them to invade the body and create imbalance. When not promptly addressed, these pathogens can become chronic and lead to an obstruction in the flow of Qi.

Keep in mind that when TCM began, they didn't know about viruses and bacteria that we have today, so climatic factors were what was

observed and used as an explanation for illness and symptoms. If you think about it, it may not be that far fetched. Ever notice that you get sick right when the weather turns cold? Or that arthritis pain kicks up when it's rainy? How symptoms respond to different types of weather and how they present helps your Acupuncturist determine the best course of treatment.

PATIENT STORIES

Encouraged, Welcomed, & Empowered

“I always feel encouraged, welcomed, empowered and generally just blessed to be anywhere on their beautiful properties (Wichita and Overland Park). So many medical places I am merely a “number” and my feelings and opinions count for nothing. We truly are encouraged to be co-learners here, and there is that basic respect and dignity for each other as co-humans on this planet – that feeling can't be bought anywhere. I've enjoyed getting acquainted with various co-learners also here getting treatments and that is another interesting source of validation as well.” - Julia

Finding Out Where My Health Was

“After some family members were having strokes, I pursued the process of finding out where my health was. With in-depth blood studies I had significant issues I wasn't aware of. Knowing that my well-being is improving is a wonderful peace of mind.” - Ernest



What are Bi Syndromes?

Cold Bi - Cold Bi is caused by cold and usually manifests as severe pain in a joint or muscle and decreased mobility. It also often occurs on only one side of the body. If your symptoms worsen when applying cold and improve with heat, you may have a Cold Bi Syndrome.

Damp Bi - Damp Bi is caused by dampness and often manifests as fixed pain accompanied by soreness, swelling, and a feeling of heaviness or numbness. Rainy and/or humid weather may make symptoms worse.

Wind Bi - Wind Bi is also called “Wandering” Bi Syndrome because the pain often moves around from joint to joint.

Heat Bi - Heat Bi is a later stage Bi Syndrome that occurs when other pathogens haven’t been resolved, and the problem becomes more chronic. Heat Bi is often characterized by redness and swelling of the joints that will feel warm to the touch.

Nowadays, we have the luxury of air conditioning and central heating, so excessive exposure to any one climatic factor is unlikely. However, invasion can occur more quickly and become more persistent when the body is weakened. Things like overwork, undernourishment, excessive sugar intake, processed foods, smoking, and consuming alcohol are all things that can weaken the body over time. Genetic factors can also play a role in a person’s susceptibility to Bi Syndrome.

How Acupuncture and TCM Can Help

When treating a patient with Bi Syndrome, an Acupuncturist will treat the “obstruction” and any underlying imbalance that made the person more susceptible to invasion in the first place.

For example, rheumatoid arthritis, which manifests as warm, swollen, and painful joints, is considered a chronic pathogen (most likely dampness) that persists and turns to heat inside the body. Treatment would involve using acupuncture and/or herbs to help clear heat from the body to address the imbalance caused by the obstruction. It would also include ways to resolve the dampness that caused the obstruction in the first place. Lastly, the practitioner would address any underlying imbalances that may have made the person more susceptible to an invasion.

Acupuncture isn’t a one-and-done type of therapy. It may require several visits to your Acupuncturist before symptoms improve. It is a treatment, however, that comes without side effects and many patients experience improvements in their health in such areas as better sleep, improved digestion, and a greater sense of overall well-being.

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ARTHRITIS AND INFLAMMATION IN THE LAB



AUTHOR

Dr. Hinshaw, MD
Bio-Center Laboratory Director



Inflammation is a normal physiologic response that is essential to our bodies. Without it, injuries and infections could be life-threatening. When the body is inflamed, chemicals are released to the damaged area to start the process of healing. Once the body is healed, the inflammation process ends. Arthritis is defined as chronic swelling and tenderness of one or more joints and is an inflammatory process that does not end.

Testing for Inflammation

Tests that focus on inflammation can be useful in helping to diagnose arthritis. For example, C-Reactive Protein (CRP) is a protein made in the liver. It is routinely used as a non-specific indicator of systemic inflammation,¹ and is one of the most sensitive indicators of acute inflammation. CRP is released into the blood a few hours after an injury, at the start of an infection, or as a result of inflammation. Continuously high levels of CRP in the blood indicate chronic inflammation² such as that which occurs in arthritis.

Nutrients and Inflammation

Dietary habits and nutritional status can be both indicators of risk and indicators of protective factors. For example, a diet high in saturated fats, trans fats, and refined carbohydrates (red meat, fast food, sugars, white bread) have increased arthritis risk because of increased inflammation.³ Conversely, diets rich in omega-3 fatty acids (oil, fatty fish) can be protective because omega-3 fatty acids may have anti-inflammatory properties.³

The Essential Fatty Acids (EFA) test and the Hemoglobin A1c test can be used to evaluate these risk factors. The EFA test measures levels of fatty acids and evaluates the balance between omega-3, omega-6, saturated, and monounsaturated fatty acids. Hemoglobin A1c⁴ is an indicator of average blood glucose and a marker for type 2 diabetes. Diabetes has been associated with an increased rheumatoid arthritis risk because of increased inflammation⁵ related to insulin resistance and obesity.

Antioxidants and Inflammation

An overproduction of oxidation can induce an inflammatory response.⁶ Antioxidants inhibit oxidation. They are substances that

may prevent some kinds of cell damage and may help to reduce inflammation. Increased intake of antioxidants such as vitamin C, beta-carotene, selenium, and vitamin E may decrease free-radical damage to joint linings, diminishing arthritic swelling and pain.⁷ Measuring levels of antioxidant nutrients through laboratory testing can help optimize diet and supplementation.

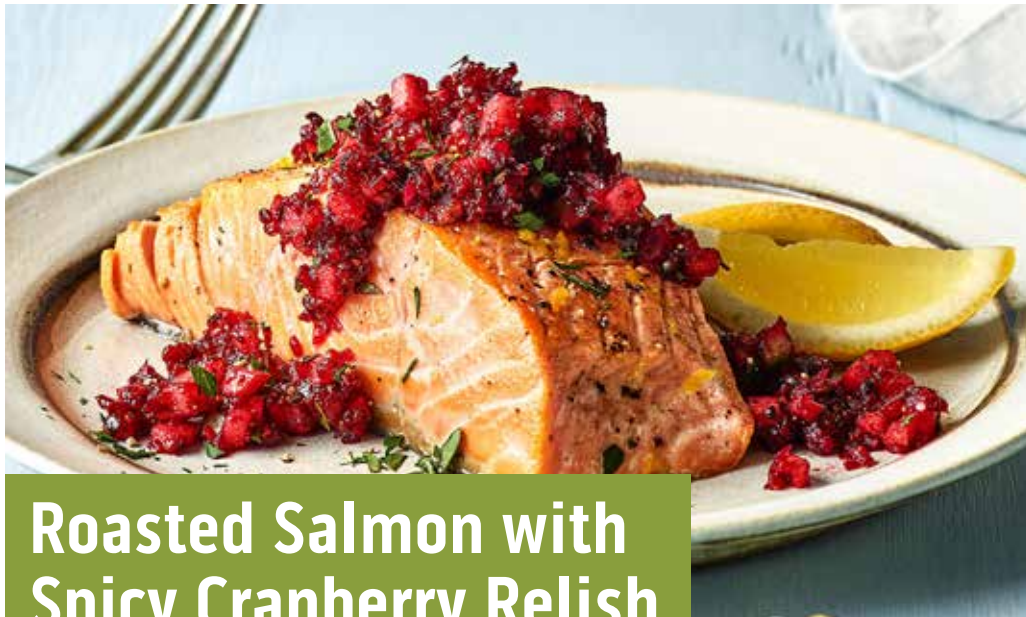
Other vitamins and minerals that are important in helping to prevent, delay the onset, or mitigate the symptoms of arthritis include vitamin D, vitamin B6, vitamin B12, folic acid, and the minerals calcium, magnesium, and zinc.⁷ These nutrients are commonly observed to be deficient in patients with rheumatoid arthritis.

Summary

Inflammation is a natural part of the healing process. Nutrients in the proper balance and in the right form support healthy inflammation and healing. Nutrient deficiencies or imbalances, in contrast, can lead to unhealthy inflammation and chronic disease. Every person is biochemically unique. Inflammatory markers and routine nutrient testing are very important in differentiating healthy inflammation from unhealthy inflammation and in determining individual dietary and supplement needs to support healthy inflammation.

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Roasted Salmon with Spicy Cranberry Relish

INGREDIENTS

- 2 ½ pounds skin-on salmon fillet
- 2 cloves garlic, peeled and chopped
- 1 ½ tsp kosher salt, divided
- ½ tsp whole black peppercorns, cracked
- 1 lemon, zested and cut into wedges
- 2 Tbsp extra-virgin olive oil, divided
- 2 tsp Dijon mustard
- 2 cups cranberries, fresh or frozen (8 ounces)
- 1 small shallot, minced
- 1 serrano pepper, seeded
- 1 medium Granny Smith apple, peeled and finely diced
- 1 stalk celery, finely diced
- 1 Tbsp balsamic vinegar
- 2 Tbsp chopped fresh parsley, divided

COOKING INSTRUCTIONS

1. Preheat the oven to 400 degrees F. Line a rimmed baking sheet with parchment paper.
2. Place salmon on the prepared pan. Mash garlic, 1 teaspoon salt, peppercorns, and lemon zest into a paste with a fork or a mortar and pestle. Transfer to a small bowl and stir in 1 tablespoon oil and mustard. Spread on the salmon. Bake until the flesh flakes easily with a fork, 10 to 15 minutes.
3. Meanwhile, pulse cranberries, shallot, and serrano in a food processor until finely chopped. Transfer to a medium bowl and stir in apple, celery, vinegar, 1 tablespoon parsley, and the remaining 1 tablespoon oil and 1/2 teaspoon salt.
4. Sprinkle the salmon with the remaining 1 tablespoon parsley and serve with the relish and lemon wedges.

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Thank you for reading.



Kelsey Webb
Editor

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Dr. Véronique Desaulniers

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EPISODE 30

WHAT IS THE TERRAIN BASED APPROACH TO CANCER?

Dr. Lucas Tims, ND, FABNO

Dr. Ron Hunninghake, MD, and Dr. Lucas Tims, ND, FABNO, have recently completed the Metabolic Approach to Cancer Certification Program with Dr. Nasha Winters. In the latest episode of the Real Health Podcast, Dr. Ron and Dr. Lucas discuss the importance of getting to the root cause of cancer by testing, assessing, and addressing the whole person.

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