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APTS Monthly



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8:00am - 5:30pm

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8:00am - 4:00pm

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Is it Tendonitis?

Tendonitis as a medical term is commonly overused. One reason for its overuse is that the term implies an inflammatory state and this is something that is recognizable to the general public. When diagnostic terms are recognizable, patients are less likely to ask questions. For instance, what if my 77-year-old mother walked into the doctor's office with elbow pain? The conversation might go something like this: "Well, Mrs. Buchberger, it looks like you have tennis elbow, or lateral epicondylitis. This is a form of tendonitis." Since my mother has heard the term *tendonitis* before, she might respond with, "Oh, ok. What can we do for that?" She didn't question the doctor because she was familiar with the term. She may be offered some of the following: nonsteroidal anti-inflammatory medications (commonly referred to as NSAIDs, such as Advil, Aleve, or Motrin), ice, heat, a variety of braces or supports, a physical therapy order, cortisone injection, and the list goes on.

My question to you is: What if it is **not** tendonitis? What if the doctor told my mother she had *tendinosis*? Would she have acted as passively? Or would she have questioned this strange term? Hopefully this article will improve efficiency for at least two-thirds of the healthcare equation (i.e. provider and patient). The other one-third is the insurance industry and that is not an article—that would be a dissertation.

The key for both provider and patient is a clear understandable definition of the terms. Definitions that all parties can understand, make sense of, and relate to. If we accomplish this, efficiency is sure to follow. The following are definitions for various types of tendon afflictions. The difference between each one is significant because the treatment approaches for each are different.

Tendonitis implies that an inflammatory process is present in or on the tendon. Recent studies have found that in cases of tendonitis, inflammatory cells



were not present in the affected tendon and, in fact, degenerative cells were present instead, confirming inaccurate use of the term *tendonitis*.

Tenosynovitis implies an inflammatory process of a tendon that is structurally or anatomically surrounded by a *synovial sheath*, a lining of particular tendons that produces synovial fluid and has a greater chance of swelling when irritated. This would be appropriate in the long head of the biceps tendon in the front of the shoulder, but not in the case of the patellar tendon at the knee.

Tendinopathy is a term that merely implies a painful entity of a tendon. It does not specify the cause of the pain but only that the tendon is painful.

Tendinosis is a term that defines objective findings of degenerative cells within the substance of the tendon. The tendon may display intra-substance tearing secondary to the degenerative process. While the tendon may appear swollen, it is not inflamed but actually thickened due to the accumulation of degenerative tissue. More often than not, the majority of tendon disorders are actually *tendinosis* and not *tendonitis*.

Why is it important to understand these terms? As previously stated, the term defines the treatment approach that will be most effective. For instance, *tendonitis*, since it implies inflammation, may be treated with an anti-inflammatory approach. This may include some or all of the following: rest, ice, ultrasound, electri-

cal stimulation, NSAIDs (prescription or over the counter), cortisone injections, compression wraps, or stretching.

If you have *tendinosis*, the approach is much different. Patients with *tendinosis* actually need a more aggressive approach to their treatment. The more aggressive approach is directed at improving circulation and remodeling in the degenerated tendon. This requires an emphasis on manual therapy techniques and therapeutic exercises that use eccentric (*e-SEN-trick*) muscle contractions. Eccentric muscle contractions occur when the muscle is contracting but lengthening at the same time. If the muscle were contracting and shortening (as in picking up an item with your hand causing your elbow to bend), this would be called a concentric contraction. Ultrasound is a commonly applied treatment modality used in physical therapy, chiropractic, and athletic training settings that aids in tendon healing and has been shown to improve tendon strength. It is a good adjunct to manual therapy and eccentric exercises applied to the injured tendon.

The treatment of tendon disorders has expanded and become more complex than "ice, stretch, and take two of these". There are also new injectable treatments that are becoming increasingly popular because of their use in professional sports, but the research to support their use in the general public is in its infancy. Nutrition is another area of interest in musculoskeletal disease processes. In the near future we should have a large base of research and knowledge available for the efficient treatment of tendon disorders. This will reduce confusion for the general population.

Article by Dale Buchberger,
DC, PT, CSCS

Exercise of the Month: Calf Stretch



Calf stretches, basic (top) and more advanced (right)



The calf, or gastrocnemius, muscle runs along the back of the lower leg below the knee. This muscle helps point the toes (plantarflex) and it contracts during powerful, explosive movements like jumping, stair running, sprinting, or cycling. The calves are one of the most overused and overlooked muscle groups in the body and, if you wear heels, run regularly, or both, stretching your calves is a must to prevent injury. Tight calf muscles contribute to Achilles tendonitis and

plantar fasciitis, among other things.

To start with the most basic calf stretch, you want to stand facing a wall or a tall table. Put your symptomatic leg behind you with your knee straight and your heel flat on the floor. Keeping your knee straight and your heel in contact with the floor, lunge forward with the opposite leg until you feel a comfortable stretch in your calf. Hold this stretch for 30 seconds and perform one at a time, three different times a day.

For a more intense stretch, stand once again facing a wall and lean back to get as much of the ball of your foot on the wall as you can. Keeping your knee straight and your hips square to

the wall, push your hips forward until you feel a strong but comfortable stretch in your calf. Do not push into the wall with your foot—this should be a passive stretch. Hold time and frequency is the same as the previous stretch: 30 seconds at a time, 3 times per day.

If you experience intense calf pain accompanied by redness and/or swelling that comes on suddenly without cause, you should make an appointment with your primary care physician to rule out a blood clot. Any further calf problems can be evaluated by your physical therapist.

Active Physical
Therapy
Solutions
celebrated
7 years in
operation on
March 23, 2016!

What's Going On at APTS?

Dr. Buchberger presented his *Shoulder Made Simple* (www.shouldermadesimple.com) seminar at Université du Québec à Trois-Rivières outside of Montreal, Canada, on Saturday, March 5, and Sunday, March 6. There were 50 chiropractors from Québec in attendance.

Tom Zirilli and Carolyn Collier spoke to the Senior Fitness Group at the Auburn YMCA on Shoulder Pain with Exercise on Tuesday, March 15. They had a great discussion with a handful of people about how to modify their current exercise programs to reduce the risk of injury and stay strong and healthy.

Casey Tarpey, PT student from Ithaca College, started her second clinical affiliation with us on Monday, March 21. She will be with us until Friday, May 13, performing patient evaluations and treatments along the way. Please help us help her learn about the real world of physical therapy practice!

Did You Know That...?

...kinesiotaping is a technique used to gently lift the layer of skin and attached tissue covering a muscle so that blood and other bodily fluids can move freely in and around that muscle? It was first developed by a Japanese chiropractor in 1979 to support muscles, improve blood and lymphatic circula-

tion, decrease pain, and improve joint range of motion. Kinesiotape is made of a porous cotton fabric about 2 inches wide that lets the skin breathe, and it has an elasticity comparable to skin and muscles. The adhesive that is used is water-repellant and can stay put for 3-4 days even through

sweating and showering. There are many different kinds of kinesiotape. Here at APTS, we have recently begun using the brands of Muscle Aid Tape and RockTape on a variety of injuries with very good results!

Muscle Aid Tape applied to the R knee to unload the kneecap



Plantar Fasciitis is a Real Heel Pain



Plantar fasciitis is considered the most common cause of heel pain. The plantar fascia is a thick band of tissue that connects the heel to the toes. The connection continues from the heel up the backside of the calf. The plantar fascia has a poor blood supply exposing it to chronic overuse conditions.

The primary symptom of plantar fasciitis is foot pain when taking the first steps after getting out of bed in the morning or after sitting for a long time. The stiffness and pain may reduce after taking a few steps, but your foot may hurt more as the day goes on. It may hurt the most when climbing stairs or with prolonged standing or running.

There are many contributing factors leading to plantar fasciitis. Most of us would like a nice neat cause and effect answer to the question, "What causes plantar fasciitis?" For instance, if you are a long distance runner, running endless miles alone won't cause plantar fasciitis. However, if you run endless miles with worn running shoes or fail to maintain Achilles tendon flexibility and hip strength then you may develop plantar fasciitis. As you can see, several factors need to be in place to develop the condition.

While there have been significant advances in shoe materials and technology, it is the structure of today's footwear that may be contributing to the development of plantar

fasciitis. Most forms of footwear have a built in "heel lift"; this means that the heel is higher than the toes. This chronic heel lift causes the calf to tighten and subsequently increases the forces on the plantar fascia. The heel lifts are effective at reducing pain because they shorten the tissue, but used chronically, they cause tightness. The end result can be plantar fasciitis. Why don't shoe manufacturers make shoes without a heel lift? They tried that in the 1970's and it failed. They were called "Earth shoes". Most people didn't like Earth shoes because it made their legs hurt. Had most of us prepared ourselves to wear Earth shoes by stretching regularly we may have avoided that pain.

Patients with flat feet or high-arched feet will experience plantar fasciitis for two different reasons. A flat foot has too much motion, chronically stretching the tissue. A high-arched foot is very rigid and cannot absorb forces very well. Patients with flat feet actually have more treatment options than those with high-arched, rigid feet.

Weakness of the hips can cause the feet to flatten at a faster rate than the tissues can accept. This results in a rapid stretch on the plantar fascia, causing chronic micro-injuries to the tissue itself. If the weakness is left uncorrected, a stubborn case of plantar fasciitis may occur.

There are many different ways to manage and treat plantar fasciitis. Unfortunately, many of these treatments are focused on the area of the plantar fascia that is symptomatic and fail to account for the variety of contributing factors addressed above. Even the best treatment can fail if the stimulating factor is not addressed.

The most common "treatment" is the prescription of orthotic devices or shoe inserts. There are many different types of

prescription and over the counter orthotics that can help patients with flat feet. Patients with high arched rigid feet should see a podiatrist for custom orthotic shoe inserts. Remember that your new orthotic shoe insert should not be placed on top of the shoe's original insert; those must be removed first. It is also a good idea to get a new pair of shoes (athletic or otherwise) for your new inserts. An orthotic is most beneficial when combined with a flexibility program for the Achilles tendon and a strengthening program for the hips.

There are many other types of soft tissue treatments such as Active Release Technique® (www.activerelease.com) or instrument assisted soft tissue mobilization (www.sastm.com) that address poor blood flow in the tissue or scar tissue build up. These techniques are valuable when combined with flexibility and eccentric type strengthening exercises. Extracorporeal Shock Wave Therapy (ESWT) is new and has had some promising results with plantar fasciitis and heel spurs in particular. Also on the horizon is the platelet rich plasma, or PRP, injection. In many cases of stubborn plantar fasciitis, several or all of these options need to be combined with the appropriate exercise program in order to achieve the desired result.

Lastly, recognizing when your shoes have had enough and you simply need new or better shoes can be the difference between a quick recovery or falling into a chronic and lengthy problem. Shoes don't last as long as we think, and most shoes are the definition of planned obsolescence. In most cases, foot pain does not resolve on its own. Finding out the cause of the pain is the first step in making it go away.

Article by Dale Buchberger,
DC, PT, CSCS

Weakness of the hips can cause the feet to flatten at a faster rate than the tissues can accept. This results in a rapid stretch on the plantar fascia, causing chronic micro-injuries to the tissue itself.

APTS Recipe Box: Strawberry Rhubarb Omelette

There's something about the classic strawberry and rhubarb pairing. This guilt-free, less-hassle omelette version is perfect for breakfast, brunch, or even dessert!

Ingredients: 6 eggs at room temperature; 1/4 cup + 1 tbsp. honey, divided; 3 tbsp. brandy, divided (optional); 1 tbsp. lemon juice; 1/4 cup heavy cream; 1/4 cup butter; 2 tsp vanilla extract, divided; 3/4 lb rhubarb, trimmed and sliced diagonally into 1.5" pieces; 1/2 lb strawberries, hulled and sliced thickly lengthwise; crème fraiche or whipped cream for topping (optional)

Preparation: Preheat the oven to 375 F. In a medium bowl, beat the eggs, 1 tbsp. honey, 1 tbsp brandy (if using), cream, and 1 tsp of vanilla until frothy (approx. 1 min). Heat a 10" cast iron pan over medium high heat. Add the butter and the remaining 1/4 cup of honey to the heated pan. Allow to cook and foam, stirring occasionally until the honey starts to caramelize and turn golden (approx. 5 mins). Add the remaining 1 tsp of vanilla, 2 tbsp brandy (if using), and the lemon juice and stir to combine. Add the rhubarb and allow to cook for approx. 5 minutes until it just starts to become tender when pierced with a fork. When the rhubarb is almost done, add

the sliced strawberries and stir gently to combine with the rhubarb. Cook for an additional 2 minutes. Gently pour the egg mixture over the strawberries and rhubarb. Allow the omelette to cook on the stovetop for 2 minutes. Transfer the pan to the oven. Bake until the eggs have completely set and the edges are starting to brown (approx. 15 mins). Remove the omelette from the oven and gently loosen the edges with a spatula before serving with a dollop of crème fraiche or whipped cream (optional).

Source: theprimalist.com/strawberry-rhubarb-omelette



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Get Well...Get Active...Be Active

Newsletter Edited by Carolyn B. Collier, PTA

At Active Physical Therapy Solutions,
we utilize the most cutting edge
treatment and management
techniques available. Our goal is to
deliver the best possible healthcare in
a friendly, caring, and well-organized
environment. Our staff is here to
provide active solutions to achieving
your personal goals!

...BECAUSE LIFE SHOULD BE

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Nutrition 101: How Excess Sugar Affects the Body

Heart: A 2013 Study in the Journal of the American Heart Association found that increased sugar creates more stress on the heart muscle and decreased its function. Over time this could lead to heart failure.

Diabetes: A 2004 Nurses' Health Study concluded that women who had one or more serving per day of sugar sweetened soft drink or fruit punch were nearly twice as likely to develop Type 2 diabetes compared to those that rarely drink sugary beverages. Other studies have concluded that drinking 1-2 cans of sugary drinks per day have a 26% greater risk of developing Type 2 diabetes. The risk was even greater for young adults and Asians.

Obesity: One study compared 120,000 men and women who increased their sugary drink consumption by one 12 ounce serving per day over a 20-year period. The study concluded that those who increased consumption gained more weight over time, on average an extra pound every 4 years, when compared to those that did not increase their intake. Children who consume a 12 ounce beverage each day increase the odds of becoming obese by 60% one and a half years after follow up.

Cancer: Several studies have shown that high sugar intake places an individual at a higher risk of developing cancer. The research indicates that it is more the effects sugar has on insulin levels that may cause a higher rate of cancer. In addition, a diet high in sugar and proc-

essed foods are often low in vital nutrients. This can limit the body's natural defenses to cancer.

How does this tie into physical therapy? A 2002 study published in the American Journal of Clinical Nutrition, concluded that elevated levels of processed sugar can increase the inflammation that causes joint pain. So if you experience painful joint symptoms, you can try to start cutting sugar from one meal a little at a time. You'll start to see a difference in how you feel pretty quickly that you'll be able to continue gradually cutting sugar from your diet. Take care of your body—it will thank you!

Article by Tom Zirilli, PT