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APTS Monthly



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Monday -

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Wednesday -

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Thursday -

8:00am - 5:30pm

Friday -

8:00am - 4:00pm

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To Stretch or Not To Stretch?

As the weather starts to improve, many of us have thoughts of leaving the confines of the gym or basement to exercise outside. As this happens, we will see many people stretching before they head out for a bike ride, a run, or before hitting that first golf ball. The question that is currently being debated is whether stretching should be performed before exercise.

As usual, there is no simple answer but a logical explanation. First, why do we stretch before exercise? The most reasonable answer is that we were taught to do this and this is what we know. We were told that stretching prepared and loosened us up before playing a variety of sports. As is customary today, science is here to refute opinion and bring balance to the force. Let's see what the science has to say.

Several studies have recently found that performing static stretching before participating in an activity such as running makes you slower and weaker. And when a group at the U.S. Centers for Disease Control and Prevention reviewed more than 100 studies of stretching, they found subjects who stretched before exercise were no less likely to suffer injuries such as a pulled muscle. In a study published in 2010 in the *Clinical Journal of Sport Medicine*, Roberto Meroni of the University of Milan and colleagues found people who stretched using conventional techniques, like bending over to touch their toes, were less flexible than those who did a more active or dynamic type of warm-up that required the use of several muscle groups.

Common stretching routines performed during warm-up procedures prior to exercise training or athletic competition have been found to in-



crease flexibility for a short time, but there is little scientific evidence that this practice can

improve exercise performance, reduce delayed-onset muscular soreness, or prevent injuries. Stretching just before exercise may actually cause temporary strength deficits or muscle weakness. Does this mean we should not stretch at all? The simple answer is no. The more accurate answer is that it is not whether you stretch, but when you stretch that is important.

The proper method of warm-up should not be to statically stretch a cold muscle or tendon. Warm-up procedures are submaximal activities that gradually and progressively increase the heart rate improving blood flow to the extremities. This process prepares the body for the more intense activity to come. An indoor 60m hurdler can and should spend 2-hours warming up for a 7.5 sec race. It is a lengthy warm-up process. Once warm, he progresses to dynamic flexibility and then he is ready to begin actual sprinting and hurdling. Not everyone needs to take 2-hours to warm-up for a 3-mile jog. Some squats using an exercise ball, toe raises, and lunges can be enough to warm-up for your jog.

When should you stretch? The best time to stretch is when you have completed your exercising for the day. Stretching on a regular basis, i.e. 3-5 days/week, away from the exercise environment, may be effective in improving flexibility and some types of exercise performance. Most athletes

(recreational, collegiate, or professional) primarily stretch to improve deficits in range of motion. For instance, if a baseball player's shoulder has lost range of motion, they would do a particular stretch after practice or games to gradually restore the required range of motion.

The current rule of thumb is to perform some type of dynamic warm-up prior to exercising. Things such as walking, skipping, and jogging are good examples of warm-up procedures. Make sure that the warm-up activity gradually increases your heart rate and lasts at least 12-15 minutes. Your stretching routine should be designed around your deficit. If your Achilles tendon lacks range of motion, you should focus on areas that would cause the tendon to become stiff. If you lack adequate hip range of motion to golf effectively, you should focus on hip flexibility. Most stretching activities should be performed and held for 15-60 seconds per stretch. Keep in mind that stretching within 45 minutes of your activity may actually reduce your performance. Other studies have shown that regular stretching can reliably improve strength, jump height, and running speed.

Remember that warming up includes heart rate, blood flow, flexibility and neurological stimulation. Stretching alone does not equal a warm-up. A simple rule to follow is warm-up before you train and stretch after you train. This should help make your summer active and injury free.

Article by Dale Buchberger,
DC, PT, CSCS



Soleus pump, start position (top), end position (bottom)

Exercise of the Month: Soleus Pump

The soleus pump exercise is a dynamic flexibility technique for the soleus muscle, which is a deep calf muscle. It is deeper than the gastrocnemius, which is typically the muscle we think of when we hear “calf”, and it does not cross the knee joint; thus, you cannot stretch it unless the knee is bent. The gastroc and soleus muscles have a common attachment at the heel, known as the Achilles tendon. When this is tight, it can cause stiffness of the plantar fascia (the bottom of the foot). The soleus pump

will help if you are experiencing pain, inflammation, or stiffness of your plantar fascia.

To perform this exercise, you will want to find a surface that is just higher than the height of your knee. Place the affected foot on this surface and fold up a towel to place under your toes so that your toes are pulled up. Keeping your abdomen on your thigh, bring your weight forward to bend the knee as far as you comfortably can without lifting your heel off the surface. You are feeling

for a stretch on the outside of the calf. Once you reach this point, you will let off the stretch by leaning back slightly, and then come forward again, producing a “pumping” motion with the leg. Continue this pumping motion for 30 seconds, working up to 60 and then 90 seconds. Perform this dynamic stretch 3 times per day to keep the soleus muscle flexible.

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Warm-up procedures are submaximal activities that gradually and progressively increase the heart rate improving blood flow to the extremities.

April is Move More Month!

The first Wednesday in April used to be known as National Walking Day. Now known as Move More Month, the American Heart Association encourages all Americans every April to commit to being more physically active on a regular basis. Being physically active helps lower your risk of heart disease and stroke, the nation's #1 and #5 killers.

Physical activity is anything that makes you move your body and burn calories. This includes climbing stairs or playing sports. Aerobic exercise

benefits your heart and includes walking, jogging, swimming, or biking. Strength and stretching exercises are best for stamina and flexibility.

To improve overall cardiovascular health, the AHA recommends at least 30 minutes of moderate intensity activity 5 days a week for a total of 150 minutes/week OR at least 25 minutes of vigorous aerobic activity at least 3 days a week for a total of 75 minutes/week (or any combination of moderate and vigorous intensity aerobic activity) AND moderate

to high intensity muscle strengthening activity at least 2 days per week for additional health benefits. You will also experience benefits if you split the time up into 10-15 minute segments, if that is more achievable for you.

The simplest, positive change you can make to effectively to improve your heart health is to start walking. It's enjoyable, free, easy, social, and great exercise! It's easy for walking to become a regular and satisfying part of life.

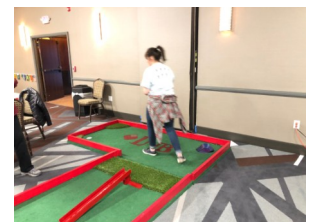
For more information, visit www.heart.org

The Girls of APTS Play Mini Golf!

On Wednesday, March 28, three of the girls of APTS participated once again in the United Way of Cayuga County 25th Annual Tim Morrison Miniature Golf Tournament at the Holiday Inn in Auburn. This year had a 90s theme to it, so we wore our old concert T-shirts and flannel shirts! This tournament includes

19 holes of miniature golf sponsored by local businesses that are paired with United Way agencies, and this is the fifth year that Cara, Linda, and Maggie have played together. (Carolyn unfortunately had to sit this year out.) This year, 240 golfers within 66 teams played and 38 local businesses were represented. It's a fun night out and a

great way to network and get APTS recognized. We look forward to it every year!



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 also has a poor blood supply exposing it to chronic over-use 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. Several factors need to be in place to develop plantar fasciitis.

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 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. Heel lifts are effective at reducing pain because they shorten the tissue. But used chronically they cause tightness.

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. 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. 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 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; the latter must be removed. It is also a good idea to get a new pair of shoes, athletic or otherwise, for your new inserts.

There are many other types of soft tissue treatments such as Active Release Techniques® or Instrument Assisted Soft Tissue Mobilization 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. Extra-Corporal 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

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", meaning 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.

APTS Recipe Box: Preparing Matcha

Traditional matcha preparation: Sift 1 tsp matcha into a bowl. Add 2 ounces of 175 degree F water. Using a bamboo whisk or milk frother, whisk in a zig-zag motion until frothy. Then add 6 more ounces of water.

Hot/cold matcha latte preparation: Sift 1 tsp matcha into a bowl and add 2 ounces of 175 degree F water. Using a bamboo whisk or milk frother, whisk in a zig-zag motion until frothy. Then add 6 ounces of warm or cold milk. Sweeten to taste.

On the go: Add matcha to a bottle of water,

cap tightly, and shake until well-blended. For a quick iced latte, add milk, sweetener, matcha, and ice into a cocktail shaker or a well-sealed thermos and shake well to combine. These options are best when using a premium line of matcha which includes flavored blends. Ceremonial grade matcha is ground much finer and may have more clumping without sifting beforehand.

Matcha is also a great addition to your favorite smoothie. Simply add 1-2 tsp of matcha to your favorite smoothie recipe, blend, and enjoy!

You can also sprinkle matcha on top of fruit,

oatmeal, or yogurt for a quick, healthy treat. You can even cook or bake with it. For cooking or baking applications where a variety of other ingredients are mixed in with the matcha, it is best to use cooking grade matcha for a cost-effective option.

(See article on page 4 to find out what matcha is and for more information on the different grades of matcha.)

Source: www.threeleaftea.com



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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!**

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Nutrition 101: What Is Matcha?

MATSU: to rub + CHA: tea = MATCHA

Matcha (maa-cha) is a traditional Japanese stone-ground green tea. Unlike most loose-leaf teas, which are steeped and then discarded, the entire stone-ground matcha leaf is consumed, providing numerous health benefits. Because it is shade-grown, matcha is richer in amino acids and other healthy compounds than conventional green tea. The green tea plants that are made into quality matcha are grown primarily in the southern parts of Japan.

The shaded leaves are harvested and then dried. They then have their stems removed and are stone ground into a fine powder by large granite stone mills. Even after grinding, matcha retains its original color. Matcha should be dark green and as smooth as talcum powder. When prepared with a hot liquid and whisked, it should create a foam of fine bubbles.

As previously stated, matcha plants are shade grown, which stimulate an increase in chlorophyll production. Chlorophyll has been shown to help cleanse the liver by attaching to toxins and heavy metals in the blood stream and removing them. Per serving, matcha contains 10 times more chlorophyll than sun-grown loose-leaf green tea.

Matcha is naturally high in L-Theanine, an amino acid well-known for its calming effect and other health benefits. Because the entire matcha leaf is consumed, each cup contains approximately 10 times more L-Theanine than other green teas,

making it the most potent way to enjoy the effects of this powerful compound. L-Theanine stimulates the production of GABA, a neurotransmitter that produces a calming effect on the mind and body. One teaspoon of matcha can provide a feeling of deep relaxation for up to 6 hours. The calming effect of L-Theanine also reduces spikes in blood pressure.

A cup of matcha contains approximately 1/2 the caffeine of a cup of coffee. When caffeine and L-Theanine combine, their effects are synergistic. It makes you feel calm yet alert without jitters. This unique combination, found only in matcha, has been shown to improve cognition, increase concentration, and enhance long- and short-term memory. Buddhist monks have long consumed matcha to improve concentration while meditating.



Matcha contains high levels of various B vitamins, along with vitamins A, C, E, and K. Matcha is high in antioxidants, which protect cells against aging and the damaging effects of potentially cancer-causing free radical cells in the body, as well as slow cognitive deterioration in older adults and improve information processing speeds in the brain, keeping you smarter for longer. One gram of matcha contains 29 times more antioxidants than one gram of blue-

berries.

There are several different methods to prepare matcha. Premium and ceremonial matcha have a creamy, vegetal taste with a sweet, grassy finish. Cooking-grade matcha will be yellow-green, much coarser, and much more difficult to froth. This matcha will taste bitter if prepared in a drink, but it is perfect for cooking and baking.

Unlike traditional loose teas where the tea leaves are steeped and discarded, the entire leaf is ground into a fine powder and consumed with matcha. As a result, there are several different ways to prepare matcha. It is a versatile, antioxidant-boosting ingredient that can be added to your favorite recipes, blended into a smoothie, made into a latte, or whisked up with some water.

Because matcha is very delicate, water temperature is VERY important. Water that is too hot will turn the matcha bitter. Keeping the water around 175 degrees F will yield optimal results. If you don't have a thermometer or a temperature kettle, you can bring water to a boil then pour off one cup into another bowl or mug. From there, transfer the water again to another room temperature bowl or mug. Transferring the water twice will cool it down to a more optimal temperature. If you can watch the water boil, look for small bubbles that are the size of "shrimp eyes" (3mm) up to the size of "crab eyes" that form rapidly and rise to the top.

Article by Carolyn Collier, PTA

Source: www.threeleaftea.com