

ACTIVE P.T. SOLUTIONS
...BECAUSE LIFE
SHOULD BE ACTIVE

APTS Monthly



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INSIDE THIS ISSUE:

What is Sciatica? 1

Exercise of the
Month: Supine
Piriformis Stretch 2

The Role of the
PTA 2

APTS Now Selling
The Perfect Sit® 2

Degenerative Disc
Disease 3

APTS Recipe Box:
Persian-Inspired
Dried Lime Chicken 3

Nutrition 101: 5 Paleo
Diet Habits to a New
You in the New Year 4

What is Sciatica?

It is a common misconception that “sciatica” is a condition when, in reality, sciatica is a symptom that may have a multitude of causes or predisposing factors. The most common symptom pattern is leg pain, which might feel like a bad leg cramp, or it can be excruciating, shooting pain that makes standing, sitting, or sleeping nearly impossible. The sciatic nerve is the longest and widest nerve in the human body. It begins as a series of individual nerve roots in the lower back, joins together in the buttocks extending down the legs, ending just below the knee where it splits into two different nerves that control the leg, ankle, and foot.

Sciatic pain is typically made worse when you sit, sneeze, cough, or move your bowels. Sciatica can occur suddenly or it can develop gradually. You might also feel weakness, numbness, or a burning or tingling (“pins and needles”) sensation down your leg, possibly even in your toes. Less common symptoms might include the inability to bend your knee or move your foot and toes.

What causes sciatica? Sciatica might be a symptom of a “pinched nerve” affecting one or more of the lower spinal nerves. The nerve might be pinched inside or outside of the spinal canal as it passes into the leg. There are several conditions that cause sciatica. A *herniated disc* can cause direct pressure on a nerve root. This is the most common cause of sciatica. *Spinal stenosis* is a condition that results from narrowing of the spinal canal putting pressure on the exiting spinal nerves. This is usually degenerative in nature caused by excessive arthritic development in the canal. Walking with a flexed or bent over posture is a common symptom of spinal stenosis. *Spondylolisthesis*, a slippage of one vertebrae on another so that it is out of line with the one above, may cause narrowing of the *neural foramina*, or opening through which the spinal nerve root exits.



Several conditions or disorders of the hip can cause sciatic-like symptoms: (1) *Piriformis syndrome* develops when the piriformis muscle, a small muscle that lies deep in the buttocks, becomes tight or spasms. The sciatic nerve runs directly under the piriformis muscle. Once this muscle becomes shortened or tight it can put pressure directly on the sciatic nerve resulting in irritation and the typical symptoms of sciatica. Two other conditions of the hip can cause the muscles in the hip to also tighten around the sciatic nerve resulting in pain down the leg. (2) *Avascular necrosis* of the hip, which is essentially death of the hip bone caused by poor circulation. (3) *Femoral acetabular impingement*, or FAI, of the hip. Since the hip is a ball and socket joint, either the ball portion can become misshapen or bony spurs can grow off of the socket causing the tendons of the hip to get pinched or impinged. This ultimately limits the range of motion. This limited motion causes the surrounding muscles to become tight and again compress the sciatic nerve.

Another more remote cause of sciatica that we have seen clinically is known as a sports hernia, or *athletic pubalgia*. Simply put: a sports hernia occurs when the tendons of the lower abdominal muscles begin to degenerate and thin out and eventually tear. Once the abdominal tendons begin to tear, the pubic symphy-

sis (the area at the bottom of the abdomen where the pelvic bones join) can become slightly unstable. This causes the small rotator muscles of the hip – including the piriformis muscle – to spasm and compress the sciatic nerve.

As you can see, “sciatica” is not as straightforward as many people would have you believe. If you perform simple stretching exercises, over the counter anti-inflammatory medications such as ibuprofen (Advil or Motrin) or naproxen sodium (Aleve), and ice to the lower back region that fails to resolve the sciatic pain in 10-14 days, you should see a healthcare professional and be assessed for one of the previous underlying causes of sciatic pain. This may involve an x-ray to assess the bone structure or an MRI to assess the soft tissue components such as the muscles, tendons, ligaments, or spinal discs. Once this information is available, your doctor, chiropractor, or physical therapist can formulate a plan to treat the underlying cause of the sciatic symptoms.

More times than not, the cause and symptoms of sciatica can be treated conservatively with a combination of physical therapy based treatments. Manual therapy techniques such as joint mobilization or manipulation are commonly combined with soft tissue treatments such as Active Release Techniques. Therapeutic exercises designed to strengthen the hip and core musculature are combined with stretching exercises. An experienced healthcare provider can formulate a home exercise program that is right for you in order to assist recovery and prevent recurrence of your sciatic symptoms.

Article by Dale Buchberger, DC,
PT, CSCS

Exercise of the Month: Supine Piriformis Stretch



Start position (top);
stretch position
(bottom)

As stated on page 1, the piriformis muscle is a small muscle that lies deep in the buttocks and it can become tight or spasm, causing piriformis syndrome, which can give you sciatic-like symptoms. The sciatic nerve runs directly under the piriformis muscle. Once this muscle becomes shortened or tight, it can put pressure directly on the sciatic nerve resulting in irritation and the typical symptoms of sciatica (weakness, numbness, or a burning or tingling sensation down your leg, possibly even in your toes). There are several ways to stretch the piriformis muscle. Here are two

methods, depending on your flexibility:

The first and more effective way starts with you lying on your back (i.e. the *supine* position) and crossing your symptomatic leg over your non-symptomatic leg in a figure four position. Using both arms (or some kind of strap if you can't reach), grab behind your non-symptomatic leg and pull toward your chest. Hold for 20-30 seconds and perform one stretch 1-3 different times throughout the day.

If this is too difficult for you, you can perform a **supine knee to**

chest stretch. Lie face up on the floor or your bed. Pull one knee to your chest with the opposite leg straight as tolerated. If you cannot tolerate the opposite leg straight, you can keep the knee bent with your foot on the floor. The hold time and frequency is the same: 20-30 seconds performed 1-3 different times per day.

Supine knee to chest stretch



All providers here at APTS are trained and certified in the same treatment methods which benefits the patient in that the continuity of care need not be interrupted for any reason at any time!

The Role of the Physical Therapist Assistant (PTA)

Physical therapist assistants (PTAs) work as part of a team to provide physical therapy services under the direction and supervision of a licensed physical therapist (PT). PTAs implement selected components of patient treatment, obtain data related to the treatment provided (such as any changes in the patient's performance as a result of the treatment provided), and make modifications in selected treatments either to progress the patient or to ensure patient safety and comfort. The PT is responsible for the services provided

by the PTA. They examine each patient and develop a plan of care for the PTA to follow. Here at APTS, Dale (PT) and Maggie (PTA) work as a team and Tom (PT) and Carolyn (PTA) work as another team. What sets us apart from other clinics is that typically at each visit, you will spend the first 15 minutes with the PT receiving any planned manual therapy treatment and the rest of the visit with the PTA performing rehabilitative exercises and/or receiving modalities for pain relief. On days when the PT is out of the office,

you will most likely be scheduled with his PTA for the full appointment, in which case she will perform the entire treatment. All providers here at APTS are trained and certified in the same treatment methods. This means that your continuity of care need not be interrupted at any time since you can be consistently seen by any one of us at the prescribed frequency and duration from the start of your treatment. Now THAT'S an Active Physical Therapy Solution!

APTS Now Selling The Perfect Sit®

We have two models to try in our waiting room!



The Perfect Sit® is a patented one-piece lumbar support and coccyx relief system designed by our neighbor, Currier Plastics! It is portable and weighs less than one pound and can be used in any seat or even anywhere where a seat is not available be-

cause it is made of a very resilient plastic that allows it to stand alone. The concept behind The Perfect Sit is not made comfortable for prolonged sitting, but rather to get up and take "micro breaks" throughout the day. It also promotes proper sitting posture and better overall health by improving core

strength, lessening stress on your spine, and alleviating shoulder, neck, and back pain and headaches caused by slouching. For more information visit www.theperfectsit.com. We offer a 25% discount on the product here at APTS for a total of \$32.35 so stop by to try or purchase one today!

Degenerative Disc Disease

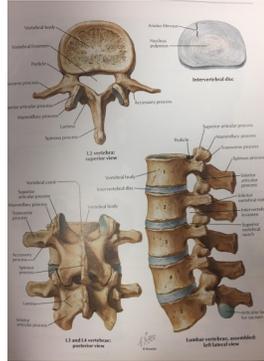
It is not uncommon for a patient to come in the office and state that they have been diagnosed with “degenerative disc disease” (or DDD) of either their neck or lower back. Degenerative disc disease is not really a disease but rather a term used to describe the acceptable and age-related changes to the spinal intervertebral discs. The spinal intervertebral discs serve as shock absorbers between the bones (vertebrae) and ligaments of the spine and provide stability and flexibility while resisting high multi-directional forces.

Each disc from the neck to the lower back has two parts: a tough, dense outer layer called the *annulus fibrosus*, and a soft, jelly-like core called the *nucleus pulposus*. The outer portion of the annulus contains pain-sensitive nerves. If the disc tears in this area, it can become a source of back or neck pain. If the nucleus leaks out and makes contact with the nerves of the outer layer of the disc they can stimulate pain in the specific region.

It is not uncommon for several conditions to coexist in the spine once the process of degenerative disc disease has begun. *Osteoarthritis*, or degenerative joint disease, is the breakdown of the cartilage that protects and cushions joints. A herniated disc is an abnormal bulge in the outer layer of the disc. This puts added stress on the spinal joints leading to osteoarthritis. As the arthritic spurs grow they begin to narrow the central spinal canal leading to *spinal stenosis*.

Because we are protein- and mechanical-based entities, this also means we are finite and subject to expiration. Consequently, as we age, our spinal discs gradually break down, or degenerate, resulting in degenerative disc disease. These age-related changes include dehydration of the

spinal discs. This reduces the shock absorbing ability of the discs and leaves the spine less flexible. Loss of fluid also makes the disc thinner and narrows the distance between the vertebrae resulting in age-related height loss.



As the disc fibers begin to degenerate, they weaken, allowing tiny tears to occur in the outer layer of the disc. The jelly-like material inside the disc may be

forced out through the tears in the annulus, causing the disc to bulge or rupture and produce disc fragments. A herniated disc may also occur from an acute injury such as a fall, motor vehicle accident, or lifting a heavy weight incorrectly. In this case, the degenerative process is given a head start by the acute trauma.

Degenerative disc disease may result in back or neck pain, but this varies from person to person. Many people have no pain, while others with the same amount of disc damage will have severe pain limiting their activities. Where the pain occurs depends on the location of the affected disc. A degenerated disc in the neck area may result in neck, arm, or hand pain, while a degenerated disc in the lower back may result in lower back, buttock, leg, or foot pain. The pain often gets worse with bending over, reaching overhead, or lifting and twisting.

The pain of degenerative disc disease may be stimulated by a severe injury such as a car accident, a minor injury such as a slip and fall, or a trivial activity such as bending over to pick up a pen. It may also start gradually for no known reason and worsen over time.

In the past, degenerative disc disease was diagnosed with a medical history and physical examination in combination with your age. Today a definitive diagnosis of degenerative disc disease is made with a combination of spinal x-rays and magnetic resonance imaging (MRI). An x-ray will show a narrowing of the discs with arthritic spurring off of the vertebrae. The MRI will show “signal changes” that are specific to the dehydration of the disc, or “desiccation”.

Treatment depends on whether the damaged disc has resulted in other conditions, such as osteoarthritis, a herniated disc, or spinal stenosis. Physical therapy and exercises for strengthening and stretching the back are often recommended, and in some cases surgery may be recommended. Surgery for degenerative disc disease usually involves removing the damaged disc. In some cases, the bone is then permanently joined or fused to protect the spinal cord. In rare cases, an artificial disc may be used to replace the disc that is removed.

Nearly everyone shows some signs of wear and tear on the spinal discs as they age. Pain that is worse when sitting and gets worse when bending, lifting, or twisting can indicate degenerative disc disease. Pain may feel better with gentle movement like walking. Remember that symptoms may come and go, getting progressively worse with each episode. If pain, numbness, or tingling begins to travel into the arms or legs, you should seek the opinion of a healthcare provider.

Article by Dale Buchberger, DC, PT, CSCS

Degenerative disc disease may result in back or neck pain, but this varies from person to person. Many people have no pain, while others with the same amount of disc damage will have severe pain limiting their activities.

APTS Recipe Box: Persian-Inspired Dried Lime Chicken

Ingredients: 2 pounds bone-in chicken pieces; slices of 2 dried limes*; 3/4 cup fresh herbs (mix of parsley, cilantro, and mint); 1 onion, finely diced; 1 bell pepper, diced; 3 cloves garlic, pressed; 2 tsp cumin; 2 tsp turmeric; 2 tsp coriander (powder); 2 tsp mild paprika; 1 lemon, juiced (about 3 tbsp); freshly milled black pepper; olive oil for drizzling.

Instructions: Break the dried limes into pieces and transfer to a bowl. Add 1 cup boiling water and let sit 15 minutes or more while you prepare the remaining ingredients. Prepare the

onion, garlic, and bell pepper. Prepare the herbs and spices. Strain the dried limes, retaining their soaking water. Chop the limes into small pieces. In a large mixing bowl, combine the lime pieces and their soaking water with the onion, garlic, bell pepper, herbs, spices, lemon juice, and another 3/4 cup water. Stir well to combine everything. Add the chicken pieces and sprinkle with black pepper. Combine well and transfer to a baking dish. Bake at 350F for 1 hour, stirring roughly every 20 minutes. As the vegetables cook, they will release their juices. The dish should remain very moist,

but should it become too dry, just add some water and stir. The dish is finished when the chicken is golden brown and very tender. To serve, drizzle with olive oil.

Source: <http://thepaleodiet.com/persian-inspired-dried-lime-chicken/>

* To make dried limes, fresh limes are boiled briefly in salty water and then let dry in the hot desert sun for several weeks. You can purchase dried limes from Middle Eastern markets or vendors, or make your own salt-free dried limes in a dehydrator. Make slices 1/4" thick and dehydrate according to the machine's instructions. A less ideal but still viable option is the oven. Arrange lime slices on a rack to allow for air circulation. Select the lowest possible temperature and “bake” for 6 hours until the limes lose most of their moisture.



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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: 5 Paleo Diet Habits to a New You in the New Year

With the New Year in full swing, the challenge to keep up with our resolutions at this point is exactly that—a challenge. Set yourself up for success this year and try making 5 small changes to your habits rather than committing to tall-order resolutions. When you set realistic expectations of yourself, it's much easier to hold yourself accountable and, more importantly, get yourself back on track.

1. **Eat organ meats once a week.**
That's right: liver (chicken, beef), giblets (chicken, turkey), kidney, beef tongue, and if you're really adventurous, heart. Organ meats have been eaten for centuries and contain more nutrients and minerals than any other meat. Bonus: they're almost always cheaper than other meats, so you can save a few bucks as well—two resolutions in one!
2. **Wash and prep your vegetables.**
Do this as soon as you get home from the grocery store. Why load all the groceries into the fridge, and then take it all out again to wash, cut, dice, and slice? Save yourself some time and get them ready when you get home. This

will make cooking time shorter, and you'll have healthy snacks ready to go whenever you might need to grab them or munch on them. Time management AND healthy snacking—again, two resolutions in one!

3. **Double the recipe.** When you're cooking dinner, double all the ingredients as if you're cooking for more than yourself, your partner, or the family. When you're ready to serve, grab a storage container or two and dish out dinner for it as well. Let it cool at room temperature and store in the fridge. This guarantees you've got something nutritious to take for lunch to work the next day, or a ready-to-go home cooked meal when you need it most. The hardest part is not to eat it just because it's there when you're eating dinner!
4. **Get the tech out of your bedroom.** TVs, laptops, tablets, cell phones—out! This will likely be the biggest change and toughest habit to break, but it's so worth it. Sleep REM cycles are impacted from light pollution at night and have serious adverse effects on health. We've all experienced irritability, inability to focus, and exhaustion from a lack of sleep. Why purposely make

it difficult for our brain and body to get the rest it needs to perform its best?

5. **Add turmeric to your spice cabinet.** This is the simplest habit to add and it's full of health benefits. Turmeric has been used as an anti-inflammatory for centuries in Asian culture, and recently has been linked to decreased symptoms of irritable bowel syndrome. Turmeric has strong antioxidant properties and is easy to add to any recipe, including the Dried Lime Chicken recipe in this newsletter. With just a pinch of turmeric added to soups, stews, salads, marinades, or smoothies, you'll release a burst of flavor to your palate.

And there you have it! This might be your best year yet—you can do it!

Source: <http://thepaleodiet.com/5-paleo-diet-habits-new-new-year/>