



Piriformis Syndrome

Recently a runner with chronic hip and leg pain was referred to me to me for physical therapy. Her diagnosis was Piriformis Syndrome. The piriformis muscle is located deep in the hip buttock area and the sciatic nerve passes through or under this muscle. It is frequently cited as a source of pain and over use injury related to running.

This runner complained "I've been doing the stretching exercises prescribed by my doctor and it's not getting any better". She said she had searched the Internet and found several articles dealing with piriformis syndrome all suggesting stretching exercises as the treatment of choice. I asked her for the Web site she felt provided the best information and she cited an article by Milton Klien DO titled "Piriformis Syndrome found at <http://www.emedicine.com/pmr/topic106.htm> .

This article by Dr. Klien reviewed and summarized previously published research on the subject of piriformis syndrome. The article by Dr Klien was reviewed by physician peers, which gives the content a higher level of credibility. The author stated that individuals with piriformis syndrome will have a tight/short piriformis muscle, and appropriate treatment for this problem is stretching exercises. He did not describe the method of measurement or standard to determine that a piriformis muscle is tight/short. The article did not describe how to stretch the piriformis muscle. If you wish to see a picture of how to stretch the piriformis muscle using search engines and searching for keyword "Piriformis stretch" several sites can be found including <http://www.rice.edu/~jenky/images/piriformis.stretch.gif>. The piriformis muscle can be stretched in a prone supine, or sitting position.

After examining this runner I determined her piriformis muscle was not tight, but in fact it was long and lax. The determination was made by comparing the range of motion the painful hip could achieve vis a vis the range of motion the non-painful hip could achieve. The range of motion on the painful hip was greater than range of motion of the non-painful hip. Testing the ability of this runner to contract or use the piriformis muscle elicited the chief complaint pain and it appeared weak in comparison to the non-painful side. Direct pressure on the piriformis muscle elicited her

hip pain. The painful buttock muscle felt smaller and softer in comparison to the non-painful side. Given the direct clinical observations it appeared her piriformis muscle was involved, but it did not appear that the piriformis muscle was tight/short, in fact it appeared to be lax and long. Therefore logic suggests stretching exercises are not indicated, and perhaps harmful.

In last months column entitled "Where's the Beef" a hierarchy of level of evidence was identified. The fourth level and best level of evidence was scientific research, the third level was evidence based on opinion of an authority, the second level of evidence was based on logic and reasoning, and the lowest level of evidence was based on an individuals intuition. In this case the best available evidence is not the highest level of evidence controlled scientific research. The best available evidence is the individual clinical examination of the patient and logic that stretching exercises is not appropriate if the muscle is long or lax.

My opinion differs from Dr. Klien. My opinion in this patient and most patients with a diagnosis of piriformis syndrome the piriformis muscle is not tight/short, but loose/long. If it is loose/long it does not make sense to stretch it. If the involved muscle is loose, lax, and painful than treatment needs to be designed to shorten and stiffen the muscle. My opinion is based on intuition, logic, and some would believe because I am an authority.

This leads to the conclusion in order to reach the highest level of evidence, the challenge for me is to publish a case report in peer reviewed publication providing scientific evidence supporting my opinion.

Self help motivational gurus frequently suggest that once a personal goal is decided on it is best to make a public statement about it. Share the goal with your friends. Let your friends encourage you to keep striving for the goal. Take the risk of embarrassing yourself in front of your friends. There are many examples of individuals who have made their personal goals public. Novice walkers and runners who have signed up for the Monument Avenue 10K YMCA training program have made a public statement that they are going to finish the event. Richmond Times Dispatch columnist Jan Malone has put her health and fitness goals out in front of all the readers of the Richmond Times dispatch.

A personal goal I have had for a long time is to publish scientific case studies regarding repetitive use injury in a peer reviewed journal. For

many reasons I have not achieved the high standard and rigor required to publish scientific case reports in a peer reviewed journal. It is interesting to note the four hierarchical levels of evidence do not seem to be incremental. The step from the third level of authoritative statements to fourth and highest level of scientific research is large and difficult step. I am not sure how long it will take me to achieve the goal, but if you see me running down the street encourage me or embarrass me by asking whether I have published a scientific case report in a peer reviewed journal, yet.