What is plantar fasciitis?
Plantar fasciitis is inflammation of the thick tissue on the bottom of the foot that helps to support the arch. The fascia also functions to separate the muscles on the bottom of the arch from the plantar fat pad. When it gets stressed or strained abnormally, it gets inflamed and painful.

What are the symptoms of plantar fasciitis?
The most common symptom is pain directly underneath the bottom of the heel. It is usually toward the inside (medial side) of the heel. Pain when first standing up after periods of rest (such as the first step out of bed) is the most common complaint. There are other conditions which can mimic plantar fasciitis, therefore it is always important to be evaluated by a foot and ankle specialist to rule out these other problems. The diagnosis of plantar fasciitis is usually straightforward, but in the unusual cases MRI can help to confirm it.

What causes plantar fasciitis?
The foot functions as a three-dimensional triangle which changes in shape as we apply pressure to the foot. The top point of the triangle is the top of the arch and the two bottom points are the heel and the ball of the foot. As the arch flattens, the bottom of the triangle lengthens. This places the fascia under tension. The fascia usually has plenty of strength to withstand this tension, but with long periods of standing or walking it becomes over-stressed. This results in inflammation and pain. Chronic tension on the fascia will result in the formation of a bone spur. The bone spur is not the cause of the pain but is rather a result of the tension being placed on the heel bone.

How is plantar fasciitis treated?
The most important treatment is reducing those forces which cause the arch to flatten. Stretching the calf muscles is the best way to accomplish this. Stretches should initially be performed three times per day for 2-3 months. Flexibility must be maintained to prevent recurrence of symptoms.

Orthotics act as a physical barrier to arch flattening and work very well to decrease symptoms. Over the counter devices work fine for most people, but occasionally custom orthotics are necessary. The most important part of an orthotic is the hard plastic component which holds the arch in place. An over the counter insert made of foam will usually not support the arch as it will simply collapse right through it.

Cortisone injections are by far the most effective treatment to decrease pain. Within one to two days much of the pain can be eliminated by receiving an injection. Oral medications can be beneficial, but usually take two to three weeks along with stretching and orthotics to provide substantial relief.

Fortunately, 95% of patients will improve with conservative treatment. Those who fail to improve may improve with surgical lengthening of the calf muscles if stretching has not been adequate. We also consider surgical release of the fascia in some instances. Advanced injections with your own cells or other tissue grafts may also be beneficial.
Calf Stretches
Stretching the calf will decrease foot flattening forces. The leg must be stretched with the knee straight to have the best outcome. The foot can be against the wall or behind you depending on what is most comfortable.

Foot Massages
Massage the bottom of the heel and the bottom of the arch while soaking in warm water. A golf ball or tennis ball can be used for this. Alternatively, rolling devices are made specifically for massaging the bottom of the foot and can be purchased online. Perform the massage for 5-10 minutes one time daily, preferably at the end of your day before bed. Make sure to pull the big toe up when you massage. Alternatively, one can massage the heel by hand by pulling back on the ankle and big toe, then deeply massaging the painful areas with the opposite thumb or knuckles.

After soaking and massaging in warm water, massage on a frozen water bottle or place the foot on an ice pack for 5-10 more minutes.