

Foot posture foot pain-Every day positions/postures which stretch the plantar fascia

There is a great deal of published material and specialized equipment, such as night splints or stretching blocks, being sold touting the benefits of stretching the plantar fascia. The plantar fascia is a ligamentous tissue on the sole of the foot, whose function is to be a primary strut or support for the longitudinal arch of the foot. It is often implicated as a source of pain in individuals suffering from either heel or arch pain.

As a clinician who has evaluated and treated a large number of persons suffering with arch and heel pain, I question whether all individuals suffering with heel foot pain should be treated with stretching exercises for the plantar fascia. It is my belief that at the times the pain occurs, it is because the plantar fascia has been strained and stretched too much, and is now too long or lax. Performing stretching exercises may delay or impair healing. An important intermediate step between identifying heel pain and intervening with stretching exercises, is to assess the length of the plantar fascia. Logic dictates that if stretching exercises are to be used, there needs to be some evidence that tissues or joint motions are restricted. There should be a measurement of the plantar fascia to determine if it is short/restricted, normal length or long/lax. A healthcare professional can assess the length of your plantar fascia by measuring motion, comparing the amount of joint motion to standardized norms and to the amount of motion in the uninvolved foot.

The debate whether individuals with plantar fascia injury should treat the problem with stretching exercises or by avoiding stretching the plantar fascia, will continue until quality outcome data/evidence becomes available. In the meantime, I have taken this opportunity to briefly identify a few common every day positions which place the plantar fascia in a stretched position. Individuals with heel/arch pain can use this information to choose to either avoid or to seek these positions depending on whether they want to stretch or to avoid stretching the plantar fascia. This information has potential applications for the management of heel pain, heel spurs, plantar fasciitis, plantar fasciosis, neuroma pain, foot cramps, metatarsalgia or for pain in the ball of the foot.

The plantar fascia is a ligament that spans between the heel bone and the toe bones.

The longitudinal fibers run from the toes to the heel, along the bottom of the heel and continue through the Achilles tendon. In order to lengthen the plantar fascia, the toes flex upward (dorsiflexion) and the foot/ankle is moved in a direction towards the nose (dorsiflexion of the ankle).

Figure 1: Sleeping posture with a blanket on the foot. The photo on the left is of the plantar fascia in a stretched position and the photo on the right is of the plantar fascia in a slack position.

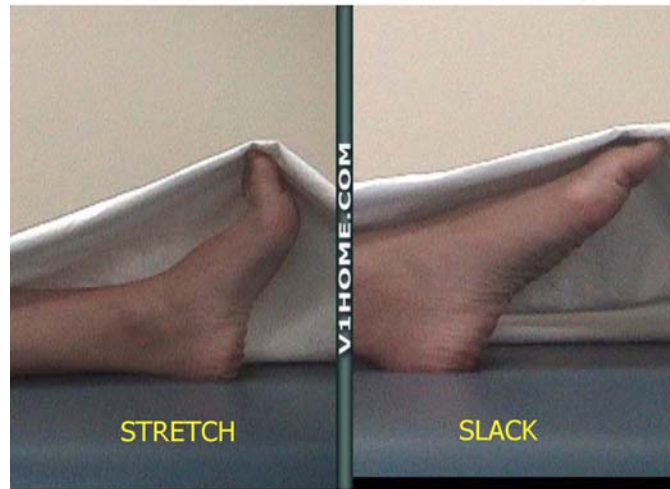


Figure 1

Figure 2: Sitting postures which place the left plantar fascia in a stretched position. These positions are frequently assumed by individuals who are shorter than 5'4" tall, in order to have their feet reach the ground. The foot is often placed in a position which puts the plantar fascia under a tensile load.



Figure 2

Figure 3: Prone positions that usually occur when kneeling or squatting. The photo on the left is of the plantar fascia in a stretched position and the photo on the right is of the plantar fascia in a slack position.

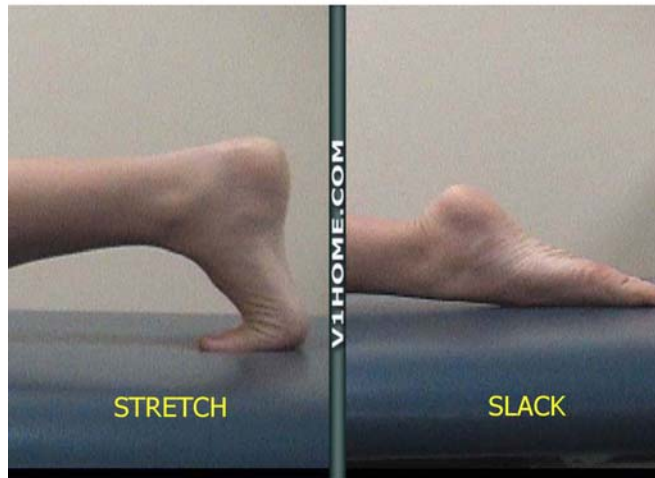


Figure 3

It is generally recognized that faulty sitting posture contributes to the development of neck or back pain. The concept that habitual foot posture when sitting contributes to foot pain, has a great deal of merit. Repeated movements and sustained postures of the foot during activities of daily living can alter the tissue characteristics, which eventually change the pattern of movements leading to pain.

Recognize everyday habitual foot positions or postures, can either contribute to the development of or to the alleviation of heel/arch pain. If positions which strain the plantar fascia can be avoided or minimized, then it will allow for the inflammation to subside and then healing can finally begin.