

# The Feet & Their Slings

The foot is our point of contact with the ground. Uniquely, the human species transfers all the weight of our long bodies down through the delicate collection of bones that is the foot.

Looking at the bones one would think this delicate collection of unstable bones is no candidate for such an important job.

Not only does the foot need to provide support but also absorb shock, transfer force and provide the spring in our step. The bones clearly need some help.

A closer look at the shape of the bones reveals a series of arches and wedges that begin to provide stability, but clearly this is not enough.

The foot gains stability and strength from the tough ligaments that surround the bones and from the pull of the muscles coming down from the lower leg. These muscles descend from the leg and wrap under the foot to create a kind of a stirrup or sling.

The foot is supported by three arches; the medial, transverse and longitudinal. The longitudinal arch runs along the outside of the foot on the little toe side.

There may not seem to be much of an arch on the outside of your foot, but under the fleshy tissue

there is a boney arch that supports the outer edge of the foot.

The transverse arch, as the name suggests runs across the foot from the big toe out to the little toe. This arch is well supported with tough connective tissue.

The medial arch is the largest and most significant of the three. It runs from the heel to the big toe. It is involved in the springing off of the foot and is required to

be flexible to allow the full range of foot movements.

The medial arch is the most mobile of the arches but also the least stable. More than the other arches, this one relies on myofascial (muscle and fascia) support to maintain its shape.

The largest and most significant myofascial support for the foot is the plantar fascia (or plantar aponeurosis). This tough piece of fascia forms a spring under the foot, which supports all the arches in weight bearing. The plantar fascia cannot be considered a tendon, as it's not firmly attached to the heel bone. It can however be seen as a continuation of the calf muscles.

In the Anatomy Trains model (Myers 2001) myofascial continuums are described as crossing bones and joints. In this way we can see that the calf muscles of gastrocnemius and soleus blend into the achillies tendon, which is continuous with heel fascia and then the plantar fascia. In this way the plantar fascia can be considered part of a myofascial continuum that supports all the arches from collapsing under the weight of the body. So although not a tendon the plantar fascia is the most supporting piece of myofascia for the arches.



