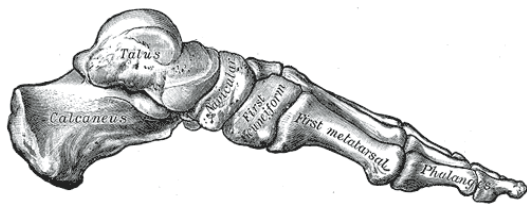
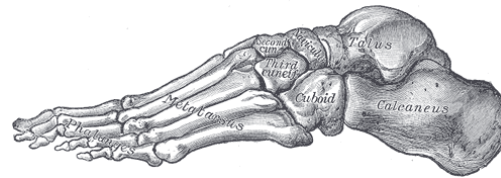


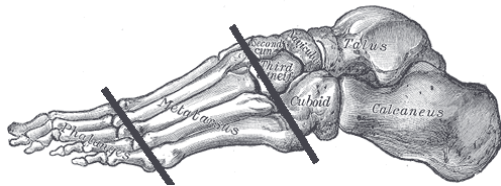
We are not born with arches in our feet; rather they develop as we learn to walk. The plantar fascia and inner foot muscles, through tensional forces, are what create the arches of our feet. By approximately 5 years old the arches are created. Any injury or postural imbalances that occur at this young age can set an individual up for postural challenges or foot instability later in life. Most people think of the arch as the inside of the foot or the medial arch. However, we actually have three arches: the medial arch(inside foot), lateral arch(outer part of foot) and the transverse arch(across the foot).



Medial arch of left foot



lateral arch of left foot



Black lines represent location of transverse arches

Walking, even as adults, strengthens the inner foot muscles and plantar fascia. However, walking in shoes, as compared to walking barefoot, does not require the muscles and fascia to work as much, which can then lead to weakness. Shoes, depending on their design, can also lead to stiffness in the foot because the toes and bones can be restricted inside the shoes. This weakness and stiffness in the foot can not only cause a change in the arches, it can require the calf muscles to work harder and create stiffness there also.

Am I saying to throw all of your shoes away and go barefoot all the time? No. This is an attempt to bring awareness that your foot muscles, bones and ligaments should have flexibility, along with stability (preferably, in my humble opinion, through muscular support), to help support the entire body.

Tension in the feet can reflect into the rest of the body. However, the reverse is also true. If you ease tension in the feet, you can get relaxation in the body. If you have stability in your feet, you allow for a good base of support to maneuver in the world. Or as the cliché goes, “you can stand on your own two feet.”

The clinical implications of a foot that does not have adequate natural arch support can be many. If an arch is dropped on only one foot, this can create a difference in the leg length between the two legs. A leg length discrepancy can lead to a multitude of structural shifts in the rest of the body. Compensations that can occur include, but are not limited to, tilts and or rotations in the hip, a tilted pelvis that then causes the spine to curve in order to bring the head to an upright position. If you have a hard time imagining this, try standing while only wearing a shoe on one foot and being barefoot on the other. This automatically creates an artificial leg length discrepancy. Notice how one knee bends to compensate. Place your hands on your pelvis. Is one side higher than the other? Are you leaning to one side? Do you feel one side of you back working harder than the other? Are your shoulders level or is one higher than the other? Is your body twisting? Do you notice any discomforts?

Can arches be lifted? Yes, Structural Integration, along with strengthening the foot, can assist in lifting the arches, or lengthening them if they are too tight. Some individuals, who have weakness or ligamentous problems, may still require support from shoes with arch supports.

Self care for your feet can include rolling the foot on a tennis ball to massage tension out. If you exercise with a trainer, ask to include strengthening for your feet.

FYI, If you are interested in anatomy, there is some additional info on the next page.

Happy Walking

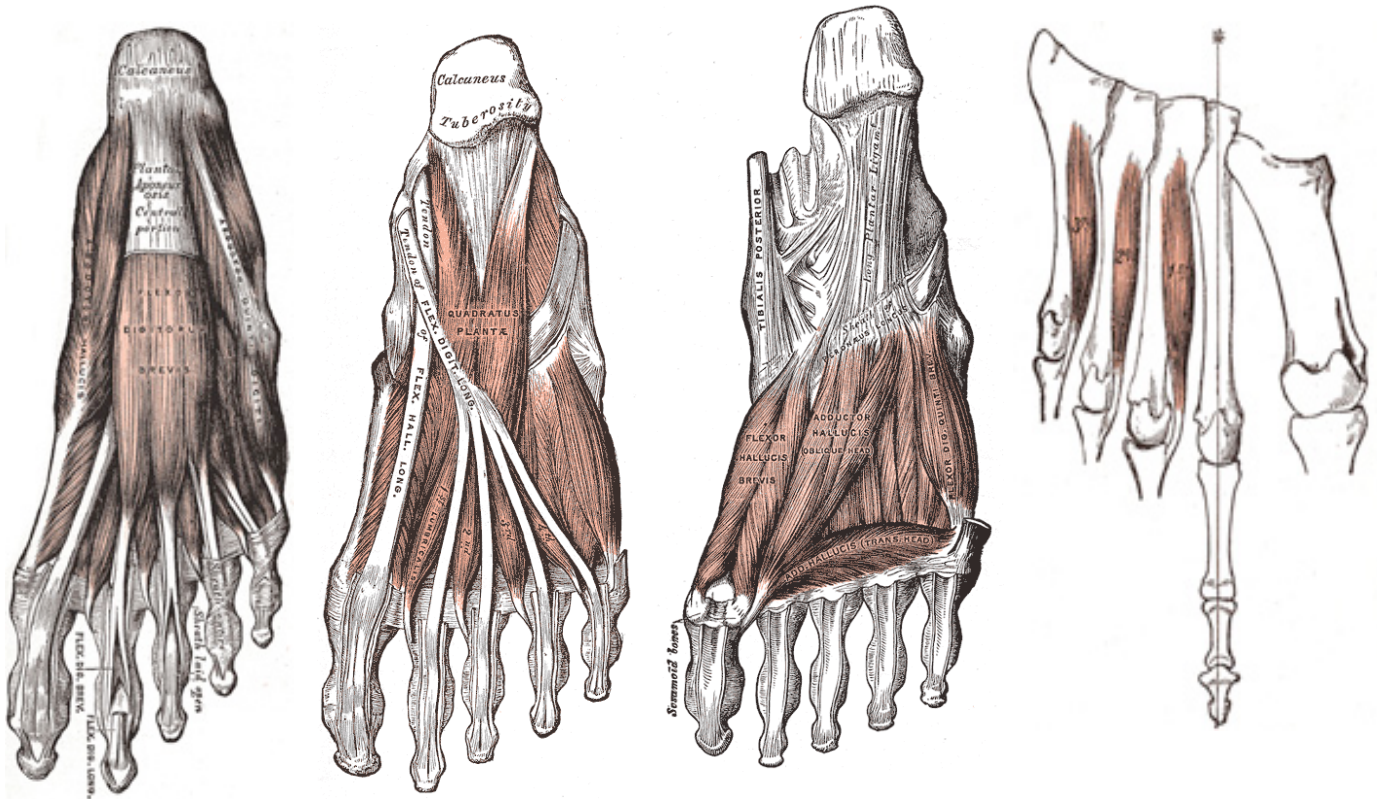
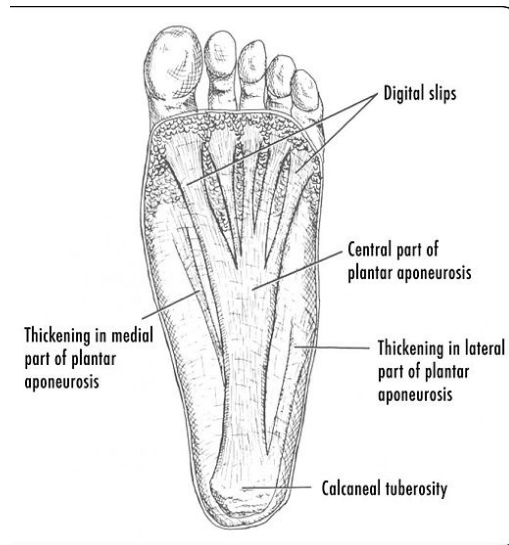
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Foot Anatomy

If we remove the skin on the bottom of the foot the first layer of tissue will be the plantar fascia. The purpose of the plantar fascia is for support of the arches as well as attachment for the inner foot muscles. The muscles of the feet are found in both top and bottom surfaces. Some of the muscles originate in the calf (extrinsic) while others are located only within the foot (intrinsic). The intrinsic foot muscles are arranged in four different layers.



a.

b.

c.

d.

The first layer (a) consists of three muscles; (b) consists of two muscles- one which is split into two parts and one which consists of 4 different parts to move each toe (except big toe); (c) is the third layer consisting of 4 muscles and (d) is the last layer which consists of a group of seven different muscles. (pictures from Grays' Anatomy)