

Plantar fasciitis

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Discussion

Human beings exist who developed and improve his country and his civilization and carrying. Many fields and jobs that need to be reformed. People do their best to get the best job ever to have and prophets money to live fine and doing good. To reach the ideal job also ideal job need and unique employee. As possible people try to be the best to do his job and the performed active daily life. To perform that, human body must be able to do that without any disabilities. These disabilities can be a pain, impaired in movement, and mental health. All these disabilities can affect socially and environmentally around the person. One of those impairments we going to discuss is plantar fasciitis.

Plantar fasciitis, also called policeman's heel, is a condition in which inflammation of thick tissue band of the foot occur resulting in pain at bottom of rear foot which you leading to difficulty step on foot, standing, and walking. Locomotion and mechanical function of the foot and minimize what impact the heel during standing walking or running lean on how the shape or foot's arch. Normally the foot consist of three arches both sides of the feet longitudinally and the other is transversally. Foot structure and the arch is depending on the flexibility of the plantar fascia. There are various methods to decide if arch of the foot had normal or abnormal shape decided by foot and ankle professional. One of the methods is connect imaginary line crossing head of the first metatarsal head of navicular and medial malleolus. If head of the navicular at the line that's mean the feet had normal and ideal arch. Some cases the head of the navicular below the line like a flat foot or above the line like high arch. Other methods are scanning the feet prints and detects the intact surface of the feet at the ground. Collapse of the arch or excessive braces can be notable. Also, the calcaneus alignment can be considered if the arch stand up properly or not. Posteriorly in some cases calcaneus can shift it laterally, that is collapse arch, or medially like high arch of the foot. Abnormal arch of the foot also can lead to some injury, like flat foot or pronated foot can lead to tears median ligament attached with a medial malleolus of ankle. High arch more prone to develop rupture of lateral ligament of ankle and serious situation fracture of the lateral malleolus of the foot possible occur.

Plantar fascia, which is a thick tissue band of the foot, is a ligament that provide connection between the back bony part of the foot, which is called the heel or calcaneus, and the front toes, also called metatarsal bone, of the foot at the plantar surface. It is acting as a shock absorber and maintaining arch of the feet, as accounts consequence normal daily activity like walking and standing or exercising perform properly on the feet. Laxity or weak plantar fascia can cause friction between plantar fascia and tuberosity of calcaneus or the heel resulting in micro tears of the ligaments or inflammation. Lack of stretching or extreme tired of this thick tissue band resulting in pressure and impact at this area leading to micro trauma or pressure, thereby inflammation was concluded. Plantar fasciitis can be diagnosed subjectively and objectively. The symptoms of plantar fasciitis are reported that onset at morning, first step of the bed on the ground. Also stepping after long resting or sitting pain at the heel was developed. Patient care provider or the medical professional can assist plantar fasciitis via press on a point where

anteriorly medially of calculus at the middle of the foot which results in uncomfortable feeling and obsessive reaction of the patient. It can be diagnosed by pain provoked by raising the first or big toe due to inflammation of tight of the plantar fascia band. X-ray can reveal plantar fasciitis in some cases heel spur can appear. Heel spur it is a growth bone at the front base of the calcaneus. Bruise. Heel spur is a consequence of Plantar fasciitis. There is no evidence revealed. This condition can lead to plantar fasciitis.

There are various conditions and situations that lead to the individual to be more prone to develop a plantar fasciitis, regarding to nature of the job, structure of the body, or kind of activity.

Tight of calf muscle, which consists of Soleus and gastrocnemius, can lead to Plantar fasciitis. Both gastrocnemius and soleus muscle or lower back muscles of the leg. Originally both heads of the Gastrocnemius are attached at the Femur condyle, Lateral head of Gastrocnemius attached to lateral femoral condyle and medial head of Gastrocnemius attached to medial femoral condyle, inserted at Achilles tendon in calcaneus posteriorly. Soleus muscles originally attached posteriorly medially at Tibia Inserted at Achilles tendon or tendon calcaneus. Both gastrocnemius and Soleus muscle act as a plantar flexion of the foot to clear the heel from the surface. They are considered as Antigravity muscles, would you play main job during maintain posture such as standing upright, or facilitate locomotion, i'm running them walking, jumping, climbing stairs, and running. These muscles play main roles to control the arch of the foot, such as tight of these muscles can lead to lateral shifted of the heel, also known calcaneus Valgus. It may occur even since newborn or tight of calcium muscles. Calcaneus Valgus lead to flat foot or low arch of the foot possibly resulting in Plantar fasciitis.

Immobilization of the calcaneus or the fixation of this joint which exist with talus and cubital bone forming Subtalar joint. Immobilization of this joint can lead to Plantar fasciitis because of lack of mobility is and increase the pressure on it.

Also, certain jobs can lead to Plantar fasciitis by compression or impact the heel during weight-bearing. Jobs need to be standing at working like traffic police officer barber, Chief at the kitchen, Teacher, pharmacist and other medical professional are high-risk to develop a Plantar fasciitis. Constantly pressure during weight bearing I are at high risk to develop inflammation of the thick band tissue or plantar fascia, as a consequence Plantar fasciitis Onset.

Flat foot, also known pes plans, pronated or everted foot, is a main cause of a plantar fasciitis by increase friction between plantar fascia and calcaneus, resulting in inflammation process at bottom of the heel. High arch, also known pes cavus, supinated or inverted foot, can cause a plantar fasciitis by increased pressure at the bottom of the heel.

Obesity or over weight can lead to Plantar fasciitis. They are condition in which increase fat percentage of body or body mass index. It had many complications at health and structure of the body. It can play a role to increase risk of plantar fasciitis by many complications like extra pressure on the feet while standing or walking and over pressure on arch of the feet, or flat foot. Tight of a plantar fascia and plantar muscles of the foot can lead to plantar fasciitis by increase of pressure at that trigger area. At the opposite laxity or overstretched plantar fascia and the plantar muscles of the foot can also lead to Plantar fasciitis of friction at that trigger area.

Core muscles can play a major role in a plantar fasciitis. Core muscles include pelvic floor muscles, multifidus, rectus spinae, transverse abdomen, rectus abdominis, external and internal oblique. Core muscles have many actions like trunk flexion done by rectus abdominis and external and internal oblique. Trunk extension done by erector spinae muscles, which are muscles group and tendons covering whole back muscles from neck to the sacral region. Among them iliocostalis, lateral column, longissimus, intermediate column, and spinalis, medial column. External and internal oblique muscles are the major muscles to perform trunk rotation and trunk side flexion. All core muscles functionally play a great role to erect spine and maintain posture at the proper position. It can hold and stabilize entire body during any segment movement like shoulder girdle movement or during walking holding the back straight. Core muscles have important function to maintain balance. Weakness of core muscles can affect directly on inflammation of plantar fascia. Imbalance of human body due to weakness of core muscle will compensate with the basic structure which is the feet. Thereby the plantar muscles of the feet will exhaust or get extra work continuously. This tension on these muscles and structure will be exposed to the friction and pressure at the heel area, that is why plantar fasciitis is a result from weakness of core muscles of the trunk.

Inflammation of plantar fascia, plantar fasciitis, can be managed by nonsteroidal anti-inflammatory drugs (NSAIDs), such as ibuprofen. Ibuprofen can block the enzyme that creates prostaglandins, which is a chemical substance that leads to inflammation. It can manage mild to moderate pain. Commonly ibuprofen has side effects that may occur like headache, dizziness, nausea, diarrhea, constipation, and abdominal pain. Some cases like asthma are highly risky to develop an allergic reaction from ibuprofen. Patients with plantar fasciitis must take ibuprofen under physician recommendation and description.

Ice is an interventional application that can manage plantar fasciitis. It acts as reducing the inflammation and creating numbness at the pain area. To perform icing application usually a frozen bottle of water was used by rolling under and by the feet. Ice pack can be used under the heel as an ice treatment option. This application must be from 10 to 15 minutes each two waking hours per day.

One of physical therapy methods to manage plantar fasciitis is taping technique. Zinc oxide tape usually used to prevent athletes injury, support and reinforce joint structure. It can support and maintain the feet arch, thereby reducing pain and inflammatory causes. Foot flat can be managed by taping to reduce everted foot by reducing amount of pronation of the feet. Also, taping can manage high arch foot or inverted foot by decreasing amount of supination of the feet. On the other hand Kinesio tape can be used by covering in the pain area by specific technique to reduce the pain of a plantar fasciitis.

Another option as interventional management of a plantar fasciitis is shockwave. Shockwave is a modality that's delivered both high or low energy as part of treatment. This energy leads to blood circulation, which carries vital healing substances, at small vessels response. This circulation can reduce the inflammation and repair micro tears at plantar fascia band if it is there. Shockwave device usually it is expensive and may be painful add to the session.

Dry needle has been used in a clinic to manage plantar fasciitis. Dry needle is a thin needle, around 0.16 to 0.3 millimeter thick and approximately 1.5 to 6 centimeter, without any medication injected through muscle fibers. When the muscle fibers were interrupted and hard to

relax or recovered the other muscle fibers will be fatigue Easily. As a consequence The tension in the muscle like a planter muscles of the foot and under the heel will constantly maintain tone and tightness appear. Thereby this tension or tightness can lead to inflammation of the plantar fascia or plantar fasciitis. Those fibers, Which work on properly besides other fibers, was called trigger points by dry needle professional. This trigger points Were act as a touch point between other fiber. After Trigger points was released, the muscle fibers and tissue will back work properly. When the muscle fiber work properly it can relax and contracts Normally and can get a ride of waste product which is accumulating in the muscle fibers during contraction phase like lactate acid, that can cause pain. On the other hand properly pumping the blood out and inside muscles that properly performed the function can lead to release of the tension of the muscle fibers under the heel. therefore Plantar fasciitis causes, like a fraction, will minimized and reduced.

Another important management of plantar fasciitis and defect of the feet are pick a proper footwear. Footwear is important for each individual tell maintain balance, protection of the feet, and Supports normal and the special feet needed. Normal individual needs comfortable shoe during his perform daily life activities or outdoor jobs. Also athletes need a proper foot wear to be convenient with the environment like a grass, sand or Slippery floor. Elderly people needs kind of a flat or lower shoe turn reduce center of gravity on his body to prevent fall. Never unless, flat foot patient needs a rigid Foot wear Like nike Airmax running shoe to support arch of the feet. Another part of footwear care is foot-insole. Foot insole is a layer of cushion dress that placed inside the shoe underneath the foot. There are various kind and type of insole. In function provide supporting arch of the feet or can be of shock absorber and reduce the pressure under the heel.

Mobilization calcaneus can share to reduce the factors that leading to Inflammation of the planter fascia. Gliding and traction the calcaneus bone around the foot bones, for example cuboid, can give flexibility of the foot.

Muscles of leg Around ankle and foot alignment is important to assist. The ankle had several movement and different anatomic planes, Inversion and inversion food both of them are two of some movements of the ankle. Eversion foot muscles consist of peroneus longest, peroneus brevis, perineus tertius, previous, and extensir digitirum. At the opposite side, inversion foot muscles consist of tibialis anterior, tibialis posterior, extensor hallucis longus, flexor digitorum longus and flexor hallucis longus. Balance between loose muscles on both sides of food must be a assist. In the flat food, Inverted foot muscles muscles strength and everted foot muscles must be stretched. In high arch foot, everted foot muscles muscles strength and inverted foot muscles must be stretched. Stretching exercise can be performed by hand or using the wall, as well as strengthening exercise also can use a wall and Thera band.

Flexibility of the muscles and tendons under the feet is an vital planter fasciitis cases. It must be assessed where the arch need to be strength or stretched. strengthening arch muscles can be done when the feet on the floor and try to claim or pick towels from the toes to the heel, in another words clowing the feet. Stretching arch muscles can be done by hand.

Stretching calf muscles requirements are very important to manage Plantar fasciitis Causes. It can be performed the the edge of the step or using the wall in standing position. Self stretching can be done by using towels and pulling the front part of the feet.

Strengthening core muscles tell in teen static balance of character spine. Some of this exercise are plank, crunch, mountain climber, reverse crunch, grounded Russian twists, dead bug, leg raises, Abs roll-out, Hanging knee raise, Walking plank, medicine ball crunch Dumbbells woodchop, Bridging hip, bridge dog, Bicycle crunch, hanging leg raise, and hollow body rock.

Balance exercise is an it crucial specially during dynamic action to prevent inflammation under the heel on the plantar fascia band. There is sort of balance exercise, for example single limp stand, walking heel to toe, stepping exercise, back leg raise, Single limp stancs with arm, Side leg raise, balancing wand, Wall push-ups, marching in place, toe lifts, shoulder rolls, and agility exercise through obstacles.

In some cases the surgical procedure can take your place if interventional treatment by physical therapy ending without any improvement.

Conclusion

Plantar fasciitis is uncomfortable painful condition and can associate with disability in some cases. It's caused by various factors that leads to inflammation all plantar fascia. Right assessment is required to determine where the main causes of plantar fasciitis. This assessment must be include history from the patient where the pain onset and worst, what's NHL off icient job or daily activities. also, observe the alignment of the feet and what kind of footwear. Finally assist muscles strength and flexibility around ankle joint. A proper assessment can lead to appropriate treatment describe to enhance a ideal result.

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