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By Scott Gillman
Daily News Correspondent
June 10, 2014 5:50PM

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Spine & Sports: Pain that's hard to kick

Plantar fasciitis is a problem that can occur in anyone, but especially those who run. It causes pain at the bottom of the foot that can become debilitating. Pain often is near the heel and arch of the foot. When it's bad, the first step out of bed is a dreaded challenge.

The bottom of the foot, anatomically termed the plantar side, contains muscles that flex the toes downward. The flexor muscles from each of the toes converge and form into a main tendon that attaches to the bone at the heel, called the calcaneus. The entire unit of muscle and tendon has a connective tissue sheath called fascia. Since this fascia sheath is on the plantar side of the foot, it is called plantar fascia, and when inflamed, causes plantar fasciitis. If it's damaged or torn but not inflamed, it's a condition called plantar fasciosis. This latter term is usually what a doctor will call it, since for most people there is no inflammation; instead, small tears and a buildup of debris. Either scenario creates a painful plantar foot.

Pressure on the foot, if not properly dissipated through the foot and lower limb, takes its toll on the plantar fascia and tendons. Variations in footwear, heel cups, heel lifts, sorbothane foot beds and custom foot orthotics all can change the GRF of the foot, but there are varied results. No doubt, walking barefoot on hard tile or wood floors aggravates plantar fasciosis and wearing supportive athletic shoes can clearly help.

Foot pressure can be diverted away from the heel. Orthotics (for instance, like those at solesupports.com) with a high arch may provide relief at the heel. Research also shows those who have sprained an ankle and still have a weak or "giving way" problem have increased loading force at the outside of the heel compared to those who never sprained an ankle. The repetitive striking of the foot against the ground destroys blood cells (hemolysis) and, done repetitively, as in long-distance running, it can lead to anemia. But, in a study measuring hemolysis in runners with a soft shoe insole versus a firm shoe insole, the soft insole caused significantly more hemolysis. Thus, a more firm and higher-arched foot orthotics may actually be the best bet for plantar fasciosis. Rocker shoes, like the MTB, actually increased force at the foot, and for runners who think that going "minimalist" will help, it likely won't. Only runners who naturally are adept at barefoot running will there be benefit from reducing force at the heel.

Ice, massage, stretching the foot and NSAID's like ibuprofen all provide temporary relief. Cortisone injections can sometimes help, but cortisone weakens connective tissues and increases the risk of a plantar fascia tear.

Slow, weighted exercise repetitions help tendons heal: for example, slow calf raises on a step. Firm stimulation of the tendon and fascia with an instrument (see FAKTR.com) is another way to heal these tissues.

For plantar foot pain sufferers, the best advice is to try high-arched foot orthotics and visit a therapist trained in the FAKTR Technique (Functional and Kinetic Treatment with Rehab) or a similar soft tissue method, wear good shoes, avoid barefoot walking on hard surfaces, do foot stretches and exercises such as simple calf raises on a step.

Chiropractors with training in foot and ankle conditions can examine the limb and rule out other causes of foot pain, such as arthritis or heel fat pad inflammation. They can also provide treatment to improve foot and ankle biomechanics while treating the plantar fascia directly. The American Chiropractic Board of Sports Physicians (www.acbsp.com) is a good place to start to find a quality provider.

Scott Gillman is a doctor of chiropractic in Natick, in practice since 1991. He is also a chiropractic sports medicine specialist with a Diplomate from the American Chiropractic Board of Sports Physicians. He can be reached at 508-650-1091 or through www.drgillman.com.



Scott Gillman