

Plantar Fasciitis: The other overuse syndrome

By: Jodi Harrity, MPT

Physical therapists are accustomed to seeing patients with injuries due to overuse. Many of these such as tennis elbow (lateral epicondylitis), patellar tendonitis, carpal tunnel, and plantar fasciitis are significantly reduced in duration and severity with early medical detection and intervention. Plantar fasciitis, if left untreated, can result in severe pain for the patient limiting mobility and activity. Physical therapy can offer immediate conservative intervention.

Plantar fasciitis is a connective tissue disorder that is the result of an irritation along the plantar (under) surface of your foot. The plantar fascia connects the medial aspect of the calcaneus to the insertion of the plantar aponeurosis. It creates a support for the long arch of the foot and is easily strained by overuse. It occurs commonly in runners and athletes who participate in basketball or racquetball. However, it does not exclude the common person; particularly those with a high arch, who are overweight, pregnant, or who over pronate during walking. The strain is commonly caused by high impact and pounding from walking or running as well as getting up quickly after a prolonged period of sitting.

Pronation describes a part of the walking cycle. It occurs after the heel makes contact with the ground. The foot rolls from the outside to the medial aspect. Excessive rollover onto the medial arch further stretches the fascia. It is especially uncomfortable for those individuals with high arches. Besides overstretching, it places the foot in poor placement for push-off, making the foot work harder at this moment in the walking cycle.

Patients with Plantar Fasciitis often have the following clinical signs:

- 1 - Pain with walking (often in the morning, first time out of bed)
- 2 - Pain with palpation (pressure) along the arch, or medial calcaneus
- 3 - Tight gastrocsoleus complex
- 4 - Abnormal foot posture

In the acute phase, physical therapy treatment is focused on rest, modalities, cross-friction massage, gentle muscle setting and stretches in pain free range of motion (ROM). Instruction is given to the patient on rest and self management. One of the modalities used to assist in decreasing inflammation is iontophoresis. Iontophoresis is a topical application of an anti-inflammatory medication driven into the soft tissue by the use of current based on the polarity (charge) of the medication. Ultrasound may also be used alone or in conjunction with heat to promote blood flow to the area for cellular repair and tissue extensibility.

Physical therapy evaluation of the entire foot and lower extremity should be performed. The examination tests for muscle tightness, alignment and strength imbalances. Based on the findings, physical therapy treatment also includes:

- 1- Correcting alignment with taping or proper orthotics
- 2- Stretching tight structures
- 3- Isometric strengthening, open- and closed-chain exercises for dorsiflexors, invertors and evertors for balanced medial lateral support

- 4- Endurance training and eccentric loading
- 5- Patient education for return to prior activity, including proper stretching and warm-up activities.

With these applications based on the stage of inflammation, physical therapy can provide appropriate treatment. The patient's prior activity level plays a large factor in determining the plan of care and expected outcomes. Provision of patient education to resume prior activity level without reoccurrence of symptoms is given continuously throughout the duration of the treatment. Through proper identification of symptoms early on, and conservative physical therapy treatment patients can avoid unnecessary surgery or painful injections and return to their normal routines.