



Golden Hills

Orthopedic and Sports Physical Therapy

j o u r n a l

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Our Mission...

To further the prevention, diagnosis and treatment of movement dysfunction in order to enhance the physical health and functional abilities of our patients.

To maximize the patient's potential for regaining full physical health by providing rehabilitation through the use of advancements in physical therapy techniques and state-of-the-art equipment.

To establish a self-management program for the patient through education and a personalized home exercise program for each individual to enable the patient to maintain their physical health at home and at work.

Part II: **Treating Foot and Ankle Injuries in the Athlete**

The March issue of *Golden Hills Journal* was the first in a two-issue series on the prevention and treatment of foot and ankle injuries. In March, we focused on the complex anatomy of the foot and ankle and discussed the increased risk of injuries in the athlete. This month, we delve into more detail about specific injury conditions and provide insights into our approach to improving patient recovery through physical therapy.

Foot Injuries

While proper athletic shoes can facilitate performance and help protect the athlete from foot injury, and orthotics can further maximize function, nearly every sport poses a risk: endurance athletes are prone to overuse injuries, while collision sports have a higher incidence of strains, sprains and fractures.

At Golden Hills, we treat many patients—both athletes and non-athletes—who have suffered a wide range injuries to the foot. Here we discuss the most common injury conditions seen in our clinic and conclude with a segment on common approaches to rehabilitation

Stress Fracture of the Foot

Stress fractures are usually caused by overtraining or overuse. They can also be caused by repeated pounding or impact on a hard surface, such as running on concrete. Increasing the

time, type or intensity of exercise too rapidly is another cause of stress fractures to the feet, as is wearing improper footwear. Stress fractures occur when muscles become fatigued or overloaded and can not absorb the stress and shock and repeated impact, instead transferring that stress to the nearby bone.

Plantar Fasciitis

Plantar fasciitis is the most common cause of pain on the bottom of the heel and is considered a chronic injury rather than an acute injury. It is common in runners performing repetitive plantar flexion and dorsiflexion of the toes.

The plantar fascia, a broad, ligament-like structure extending from the heel to the base of the toes, provides support for the medial longitudinal arch of the foot. The plantar fascia is stretched and the arch flattens slightly to absorb the impact each time the heel impacts the ground. The fascia is not very flexible and such repetitive stretching can result in small tears in the fascia at its calcaneal origin.

Heel pain during the first steps of the morning is a classic sign of plantar fasciitis. This pain is the result of the foot resting in plantar flexion overnight. This allows the fascia to shorten. When the shortened fascia is stretched pain occurs. Pain is also common at the start of exercise and when resuming activity after rest.

Treating Foot and Ankle Injuries in the Athlete (Continued)

Heel Spurs

A heel spur is a growth of bone on the bottom of the heel where muscles and other soft tissue attach. Most commonly the plantar fascia becomes inflamed and causes pain. If this inflammation becomes chronic, a heel spur can grow.

Turf Toe Syndrome

Turf toe can occur after a very vigorous upward bending of the big toe. The syndrome got its name because it occurs frequently in people who play games on artificial surfaces. The shoe grips hard on the surface and sticks, causing bodyweight to move forward and bend the toe up. It is also common in martial arts. Patients are more at risk if they have increased range of motion in the ankle and/or wear soft flexible shoes.

Ankle Injuries

Treatment of ankle injuries has improved dramatically since the advent of arthroscopic surgery, which allows direct visualization of all articular structures without the need for extensive surgery. Post-operative advantages of arthroscopy include decreased patient discomfort, decreased morbidity, faster rate of rehabilitation and earlier return to daily and athletic activities.

Sprained Ankle

Ankle sprains are one of the most common sports injuries we encounter at Golden Hills. Patients often suffer ankle sprains after applying weight to the foot when it is in an inverted or everted position. Commonly, this happens while the patient athlete is running or jumping on an uneven surface. The foot rolls in (inversion) or out (eversion) and the ligaments are stretched.

Occasionally a loud “snap” or “pop” is heard at the time of the sprain. This is usually followed by pain and swelling of the ankle.

Ankle sprains are classified by the degree of severity:

- **Grade I** - stretch and/or minor tear of the ligament without laxity
- **Grade II** - tear of ligament plus some laxity
- **Grade III** - complete tear of the affected ligament

Syndesmotic Ankle Sprain

Syndesmotic (or “high”) ankle sprains, which account for as many as 10% of all ankle injuries, may occur alone or in conjunction with a lateral ankle sprain and are most commonly seen in collision sports such as ice hockey, football and soccer. Although not entirely clear, the mechanism of injury appears primarily to be an external rotation injury, although hyperdorsiflexion has been reported to lead to tears of the syndesmosis.

Achilles Tendon Rupture

Causes of ruptures of the Achilles tendon vary. They can happen suddenly, without warning, or follow a tendonitis. Weak calf muscles may contribute to problems. If the muscles are weak and become fatigued, they may tighten and shorten, increasing the stress on the Achilles tendon and resulting in a rupture.

A key sign of an Achilles tendon rupture is the feeling of being hit in the Achilles area. There may be little pain, but the patient cannot lift up onto his or her toes while bearing weight.

Achilles Tendonitis

Achilles tendonitis is a chronic injury that occurs primarily from overuse. It tends to come on gradually over time until pain is constant and exercise or activity is too painful to continue. The leading cause of chronic Achilles tendonitis is ignoring early warning signs and pushing through pain. Another major contributor is tight or weak calf muscles. Sudden increases in training, hill running or speed work can also lead to Achilles tendonitis.

Rehabilitation through Physical Therapy

Throughout the recovery process, physical therapy plays an invaluable role in helping the patient recover his or her strength and flexibility and return to pre-injury levels of performance.

Various rehabilitation modalities can be used to treat the foot and ankle. Electronic stimulation devices appear to provide some symptomatic relief to patients. Most physical therapy rehabilitation programs use ice, heat, massage, ultrasound and electrical stimulation. In addition, exercises—passive, active assisted and/or active—are critical to the rehabilitation process.

Most importantly, with primary input from the referring physician, the physical therapist plays an instrumental role in ensuring the success of the rehabilitation program and restoring maximum functional potential.

Contact Golden Hills today to find out more about our treatment programs for patients suffering from foot or ankle injuries:
(408) 274-0888.

