Posterior Tibial Tendonitis

INTRODUCTION
Your child has been diagnosed with posterior tibial tendonitis. Tendons transmit forces across joints for us to walk and move. The posterior tibial tendon runs in a sheath that passes behind the medial malleolus at the ankle. The tendon can become inflamed if overloaded or overused. This is a repetitive stress injury. When inflamed, there is pain with ankle movement and sometimes swelling over the tendon. Treatment is important to avoid chronic changes in the tendon, which can lead to the tendon rupturing. Treatment starts with simple measures like rest, ice, elevation, and anti-inflammatory medications. As pain and swelling improve, exercises and stretches are done to restore motion and function. At times, an ankle support or orthotics can help to protect the ankle and allow return to activities while treatment continues. In severe and refractory case, surgery may be needed.

BACKGROUND
The posterior tibial tendon runs behind the bump at inside of the ankle (the medial malleolus), across the instep, and into the bottom of the foot. The tendon is important in supporting the arch and is important for push-off during walking and running. Problems with the posterior tibial tendon seem to occur in stages. Initially, irritation and inflammation develops in the outer covering of the tendon and is called tendonitis. With chronic inflammation or with age related wear and tear, tendons can degenerate. With degeneration, tendon fibers can break and lead to weakening in the tendon. This may heal and lead to scar tissue or can lead to complete rupture of the tendon. The symptoms of tendonitis of the posterior tibial tendon include pain in the instep area of the foot and swelling along the course of the tendon. In some cases the tendon may rupture, due to weakening of the tendon by the inflammatory process. Rupture of the tendon leads to a fairly pronounced flattfoot deformity that is easily recognizable.

CLINICAL PRESENTATION AND DIAGNOSIS
Symptoms of tendonitis fall into a common pattern. Mild pain is located over the tendon. Pain is worse with palpation over the tendon and with contraction of the associated muscle. The pain is worse after exercise or running and gradually worsens. There may be a noticeable sense of sluggishness in your leg. Episodes of diffuse or localized pain, sometimes severe, develops along the tendon during or a few hours after activity. There can also be stiffness in the morning after sitting for a period of time. Stiffness diminishes with use as the tendon warms up. Sometimes there is mild swelling or a nodular feel to the tendon.
The diagnosis of posterior tibial tendonitis is usually made by examination of the ankle. X-rays may be ordered to make sure there is no fracture or other problem. The physical examination helps determine where the tendons are inflamed, ruptured, or degenerated. The doctor will move your ankle into different positions. The posterior tibial tendon is checked by pulling your foot up and in against the doctor’s downward pressure. Stretching the foot down and out can also be used test whether the tendons hurt. Your doctor may order an MRI scan of your ankle.

TREATMENT
Treatment depends on the degree of injury to the tendon, but usually involves rest and anti-inflammatory medications to settle things down and then stretching and other modifications to avoid recurrence with return to your usual activities. Settling the pain and inflammation down requires rest and anti-inflammatory medications. Rest may mean a total withdrawal from work or exercise for short period, or it may mean doing light duty work or switching to another exercise, such as swimming, that does not stress the tendon. NSAIDs like ibuprofen or naproxen will also help to reduce the inflammation. Once the pain and inflammation has improved, a rehabilitation program is started with a goal of reducing the inflammation and controlling the mechanical irritation. The physical therapist may use heat, ice, and ultrasound treatments to reduce pain and swelling. Stretching, strengthening, and ankle coordination exercises are added as symptoms ease.

Treatment of posterior tibial tendonitis can be facilitated with the use of an ankle brace or a firm arch support in the shoe. These devices take some of the stress of the tendon and decrease some the tendency for continued overloading and accumulation of additional damage. A cortisone injection, sometimes used to ease inflammation in other types of injuries, is usually not appropriate for this condition, since the tendon is more likely to rupture following injection.

Physical therapy treatment is often used. Initially, therapy is directed toward reducing pain and swelling. Typical treatments include massage, moist heat, ultrasound and/or iontophoresis. As pain and swelling improve, a home exercise/stretching program is developed to improve flexibility and strength in the leg muscles and to encourage healing in the posterior tibialis tendon. Therapy will progress to include more advanced mobility and strengthening exercises. As motion and strength improves, the therapist will guide a gradual return to sports and activities.
If initial treatment do not provide adequate relief, surgery may be recommended. If the problem appears to be primarily tendonitis with thickening of the tissue around the tendon, surgical debridement may be recommended. A degenerated tendon that has not ruptured can sometimes be repaired or grafted to add strength to the tendon. A badly degenerated or a ruptured tendon may require a tendon graft or arthrodesis of the subtalar joint may be recommend.

EXPECTED OUTCOME AND POTENTIAL COMPLICATIONS
Recurrence is common, but is best managed with these same treatment recommendations. In rare cases, cortisone can be injected into the sore tendons to relieve symptoms that won’t go away. Cortisone is a powerful anti-inflammatory medication. Because there is a risk that cortisone will cause a tendon to rupture, doctors are very cautious about injecting cortisone into the posterior tibial tendon. Surgery is an option of last resort. If friction between the tendon and its covering

MORE INFORMATION
Further information can be obtained on the internet. Your local public library can help you explore these sources if you are interested. Two good sites for expert and peer reviewed information are the American Academy of Orthopedic Surgeons at www.aaos.org and www.emedicine.com.

FEEDBACK
If you have questions or comments, please contact the office or submit them to the web site at www.pedortho.com.