



Achilles and Patellar Tendonitis

In many cases the young patient has an advantage over their older counterparts. They heal faster and have shorter recovery times after a workout or injury because their bodies are growing and developing quickly. As any parent knows kids grow out of shoes quickly and clothes that are not worn out are grown out of soon enough. There are however some conditions that are a challenge specifically because the patient is younger and their bodies are growing so quickly. We will look at two of these conditions.

Achilles Tendonitis and Sever's Disease

Achilles tendonitis is an inflammation of the tendon that attaches the 2 calf muscles to the heel. These are the muscles that allow you to push the heel off the ground and push forward while walking. In adults this is typically from overuse of the tendon from too much activity stressing the tissue. Typically there is a dull ache below the calf that increases with greater activity.

Some adolescents have a condition known as Sever's disease. In the younger patient the tightness on the Achilles tendon puts a tremendous force on to the heel. One simple rule of the body is that the bone will grow in response to stresses that it feels. The heel bone or Calcaneus, is still growing quickly in most of these kids and essentially the Achilles pulls on the surface of the bone and causes pain. Additionally over time there will be increased bone growth at the heel leading to a bigger bump at the back of the heel.

Patellar Tendonitis and Osgood Schlatters Disease

In the knee there is a similar set of circumstances. The typical adult might suffer from patellar tendonitis, a condition where the large tendon that connects the quadriceps to the lower leg is overstressed. In the adolescent population, the inflammation is not in the tendon but at the bony attachment at the front of the knee. Again, because the young athlete is growing quickly, the surface of the bone will be pulled away and bone will fill in behind leaving an ever more prominent bony area.

Both Osgood-Schlatters and Sever's are different types of a condition called apophysitis. The apophysis is the growth plate where the bulk of the growth is taking place. Bone grows faster than the surrounding muscles and tendons so a load is placed in these muscle attachments. Add to that the repetitive load that these kids and young adults place on their joints in their sports and you begin to see how this becomes a chronic problem.

Treatment

- *Rest/Ice* - One of the first things that must be done is take some stress off the joints. Stop activity that is causing pain and ice regularly to help control the inflammation. If you decrease the load on the body you can start to heal the tissue.
- *Stretching* - Another way to decrease the stress on the tendon is to increase the flexibility of the muscle. In the knee we need to stretch the Quadriceps and in the heel the Calf stretch. 30 seconds 2-3 times each side.
- *Strengthening* - In these conditions we want to do a particular type of strength building in the muscles and tendons. Eccentric strength is the loading of a muscle while lengthening it. Sometimes in weightlifting this used to be called “working the negative”. No matter the name, this strengthening builds not only muscle strength but also tendon strength.
- *Heel Raise* - Standing tall raise up onto the toes and then slowly lower for a five count. Repeat 10 times 3 sets 2 times a day is the protocol that the research suggests.
- *Single Leg Squat* - Either standing up or with the back against the wall, slowly lower for 5 seconds as far as comfortable without pain. Repeat 10 times 3 sets 2 times a day as above.



Additionally, other weaknesses should be addressed, particularly in the hip.

- *Sidewalk* - with a resistance band around the ankles slowly walk side to side keeping distance between the feet. 20 to 30 feet, 5 laps. After that move the bands to the knees and repeat.
- *Hip Extension* - with the resistance band at the ankles, stand tall and kick the leg back by using the gluts. Repeat on both sides.

Though most of these conditions will resolve relatively quickly, there are a portion of these kids that will take a while to heal. No matter how consistent you are with a program, sometimes it just takes time to heal these kinds of conditions. Once the muscles are lengthened enough to account for the growth of the bone the last of the pain will resolve. Though frustrating, you need to make sure the person is healed before going back to decrease the risk of other injuries as you compensate for the pain. It is better to take two weeks now that save you two months of pain later.



About the Author

Kurt Hutchinson is a licensed Physical Therapist who has been with Illinois Bone and Joint Institute since 2002. Kurt is a graduate of Augustana College in Rock Island, IL where he received a BA in Biology. He earned his Master's in Physical Therapy from Northwestern University in 2001. He is active in presenting company in-services and educational case studies on many topics including Anterior Knee Pain. Kurt worked with the varsity athletes at Northwestern University for several years to provide orthotics and running assessments.

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