



Heel Pain in Children

By Brandon A. Macy, DPM, DABPO

Dr. Macy gives us a primer on a common cause of heel pain in the growing child, *Sever's disease*. Recognize the signs and symptoms and utilize the treatment options Dr. Macy outlines to get these active children running pain free again. This article is available for *Continuing Education Unit (CEU)* credit.

While heel pain a child may be linked to a growth spurt, more commonly it is related to a growth plate injury.

A child with heel pain or difficulty walking may have *Sever's Disease*, also known as calcaneal apophysitis. In this condition, the heel bone grows faster than the surrounding tendons and muscles during a growth spurt, and they are overstretched.

More commonly, there are biomechanical factors which will trigger the condition. The added stresses of sports activities and/or extra weight can often lead to the onset of Sever's. The Achilles tendon inserts into the posterior side of the calcaneal apophysis. In feet which overpronate there can be a torque applied to the growth plate. These feet can be identified by view-ing the feet from behind. Significant calcaneal eversion will typically be noted. Children with tight Achilles tendons are also likely to pronate excessively and the tightness of the gastrosoleus complex alone puts extra tension on the tendon and the apophysis.

SYMPTOMS OF THIS CONDITION INCLUDE:

- Heel pain that eases with rest, and is worse after athletic activities like jumping or running

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- Redness or swelling in the heel
- Tenderness when the back of the heel is squeezed. A feeling of tightness may also be there
- Limping
- Inability to walk unless on tip toe

Sever's disease can be found at different ages by gender because of the different ages of girls' and boys' growth spurts. For example, boys usually experience growth spurts at ages 10 to 14, so that's when the risk of Sever's disease is greatest. Girls, whose growth spurts are earlier between ages 9 and 13, may have Sever's disease at those earlier ages.

PREVENTING SEVER'S DISEASE

It is possible to prevent this painful condition with some common sense steps that are good tips for children of any age:

- Provide them with supportive, well-fitting and well-cushioned

shoes. Children who spend a lot of time in Uggs or flip-flops will continue to have problems with their heel pain.

- Athletic shoes with cleats can be a problem, depending on the cleat pattern and how hard the cleats are. Running for conditioning purposes should be done while wearing running shoes, not cleats.

- Stretching exercises of the hamstrings, heel and calf.
- Maintaining a healthy weight to minimize stress on the heel.
- Limit running and jumping on surfaces that are inflexible and hard.
- Prevent over-training, especially if the heels are painful.

The good news? The risk of Sever's

disease evaporates when the child is fully grown. Once the growth plate closes, there is no growth plate to injure. However, children with tight Achilles tendons or hyperpronation remain susceptible to plantar fasciitis into adulthood.

HOW TO TREAT SEVER'S DISEASE TO ELIMINATE HEEL PAIN

If a child is experiencing heel pain, at The New Jersey Children's Foot Health Institute at Clark Podiatry Center we need them to come in for an evaluation. We may recommend resting the foot and taking a break from all sports if the pain is severe. Parents need to alert their child's coach of the problem, advising them to have the child sit out during the game or practice if they notice the child is limping or slowing down due to pain. Other treatments include:

- Icing the inflamed area several times a day.
- Taking ibuprofen or naproxen to relieve pain and inflammation, with the doctor's approval.
- Physical therapy and gentle stretching. Night splints for passive stretching of the Achilles tendon
- Adding heel cups or orthotics with a deep heel cup and adequate biomechanical control to reduce rotational stress on the heel.
- Wearing a cast or walking boot if these methods don't bring relief or in the most severe cases.

With regard to shoe gear, shoes must have adequate support and shock absorption. They must be deep enough to hold an orthotic and/or heel cup. Soccer cleats may need to be changed to a different cleat pattern, softer cleats or a turf-style cleat.

As always, one should not jump to the conclusion that all heel pain in this age group is Sever's Disease. Superficial problems such as warts, foreign body injuries and the like should be ruled out. Other injuries to the heel area also need to be investigated thoroughly by x-ray and other testing as indicated.

Dr. Brandon Macy, is in private practice in Clark, N.J. Director of the New Jersey Children's Foot Health Institute. Board Certified by the American Board of Podiatric Medicine. Diplomate of the American Board of Podiatric Orthopedics. Member of the American College of Foot and Ankle Pediatrics. He can be reached at childsfoot@comcast.net.

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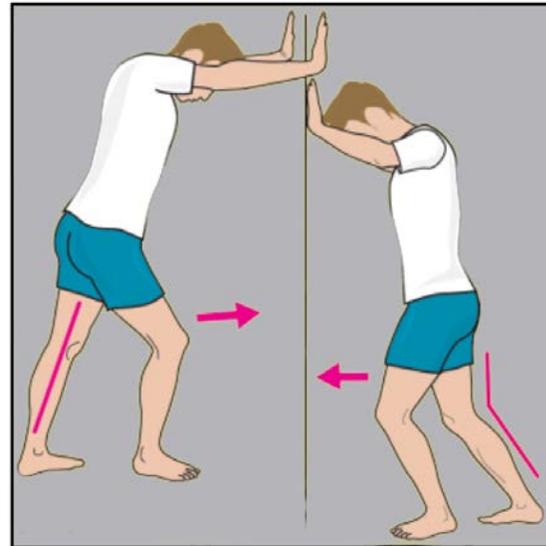
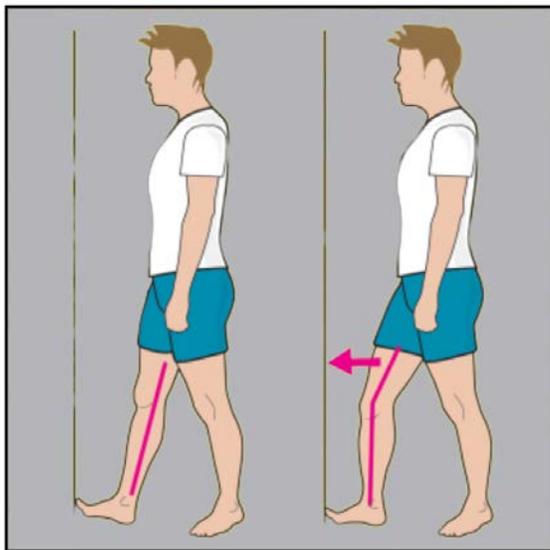
ALCANEAL APOPHYSITIS STRETCHING EXERCISES

Illustrations adapted from Lurie Children's Hospital of Chicago:
<https://www.luriechildrens.org/en-us/care-services/specialties-services/institute-for-sports-medicine/conditions/Documents/sever-disease.pdf>

To be done 2-3 times daily

1. "KISS THE WALL" STRETCH

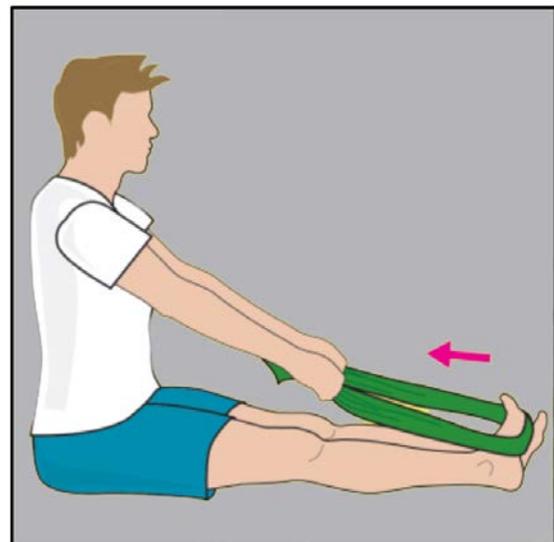
Stand about two feet away from a wall. Flex your left foot and place it against the bottom of a wall. Keep your back tall and straight. Lean forward from the hips as if you were trying to kiss the wall. Hold the stretch for 30 seconds. Repeat with the other leg.



To be done 2-3 times daily

2. STANDING CALF STRETCH

Facing a wall, put your hands against the wall at about eye level. Put one foot in front of the other, keeping the forward knee bent. With the back knee straight, push the heel of the back leg down on the floor and slowly lean into the wall, until you can feel a stretch in the back of your calf muscle. Hold for 30 seconds. Repeat with the back knee bent. Then, repeat both stretches with the opposite leg in front.



To be done 2-3 times daily

3. TOWEL STRETCH

Sit on the floor with your injured leg stretched out in front of you. Loop a towel around the ball of your foot, and pull the towel toward your body. Be sure to keep your knee straight. Hold for 30 seconds. Repeat with the other leg.