



Sever Disease (Calcaneal Apophysitis)

What is Sever Disease?

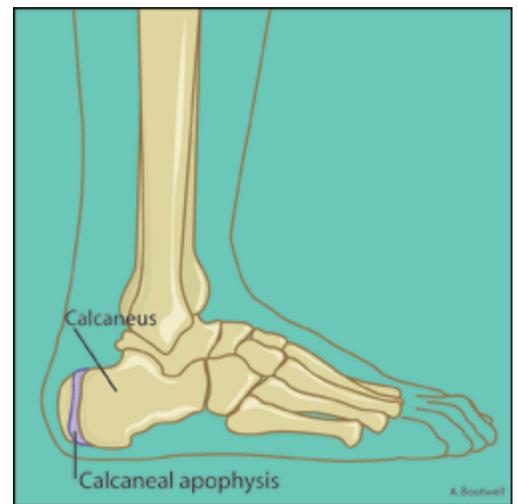
Sever disease is painful irritation and inflammation of the apophysis (growth plate) at the back of the calcaneus (heel bone), where the Achilles tendon inserts. In a child, the bones grow from areas called growth plates. The growth plate is made up of cartilage, which is softer and more vulnerable to injury than mature bone. Sever is most often seen in physically active boys and girls between the ages of 8 and 13 years and is the most common cause of heel pain in this age group. It is most commonly seen in soccer, basketball and gymnastics. Approximately 60% of Sever's disease is bilateral.

How does it occur?

Sever disease is caused by repetitive tension and/or pressure on the growth center. Running and jumping generate a large amount of pressure on the heels. Tight calf muscles are a risk factor for Sever because they increase the tension on the growth center. Sever can also result from wearing shoes with poor heel padding or poor arch support.

What are the symptoms?

Your child will complain of pain in the heel. The pain usually occurs during or after activity (typically running or jumping) and is usually relieved by rest. The pain may be worse with wearing cleats. This pain may limit your child's activities and when severe, may cause a limp.



How is it diagnosed?

Sever disease is diagnosed based on your doctor's physical examination of the lower leg, ankle and foot and review of your child's symptoms. If the diagnosis is in question, your doctor may order x-rays to evaluate for other injuries that may be causing the heel pain. In Sever disease X-rays are normal.

How is it treated?

Your child will need a short period of rest from painful activities in order to take pressure off the growth center and allow inflammation to resolve. Ice is very helpful in reducing pain and inflammation. Apply ice for 10-15 minutes as often as every hour when sore. Do not use ice immediately before activity. It is very important to stretch tight calf muscles in order to relieve tension on the growth center. Shoes with padded heel surfaces and good arch support can decrease pain. Your doctor may also recommend gel heel cups or supportive shoe inserts. In some cases, your doctor may prescribe an anti-inflammatory medication.

When can my child return to full activity?

The goal is to return your child to his/her sport or activity as quickly and safely as possible. If your child returns to activities too soon or plays with pain, the injury may worsen. This could lead to chronic pain and difficulty with sports. Everyone recovers from injury at a different rate. Your child's return to sport or activity will be determined by how soon his/her injury resolves, not by how many days or weeks it has been since



the injury occurred. In general, the longer your child has had symptoms before starting treatment the longer it will take for the injury to heal.

Your child may return safely to his/her sport or activity when each of the following is true:

1. Your child has full range of motion of the ankle without pain.
2. Your child has no pain at rest.
3. Your child is able to walk without pain.
4. Your child is able to jog without pain.
5. Your child is able to sprint without pain.
6. Your child is able to jump and hop on the affected foot without pain.

If your child needs heel cups to do all of these maneuvers without pain, that is acceptable, and your child should wear the heel cups during sports and activities. If the heel pain recurs when your child returns to sports, he/she should rest, ice and stretch until the pain is gone before trying to return again.

How can calcaneal apophysitis be prevented?

Perform a proper warm-up before starting any activity. Ten minutes of light jogging, cycling, or calisthenics before practice will increase circulation to cold muscles, making them more pliable so that they put less stress and tension on their attachment sites (apophyses).

Have your child wear shoes that fit properly. The heel portion of the shoe should not be too tight and there should be good padding in the heel.

Stretch tight calf muscles several times a day. It is better to stretch after exercise than before exercise.

Hold each stretch for 30 seconds. Don't bounce.

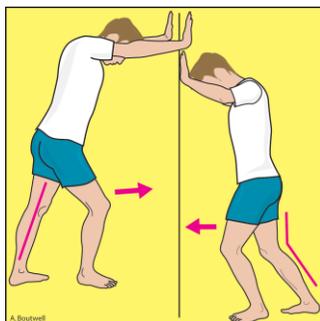
Do not play through pain. Pain is a sign of injury, stress, or overuse. Rest is required to allow time for the injured area to heal. If pain does not resolve after a couple days of rest, consult your physician. The sooner an injury is identified, the sooner proper treatment can begin. The result is shorter healing time and faster return to sport

Stretching exercises for calcaneal apophysitis

To be done 2-3 times daily

1. "Kiss the wall" stretch

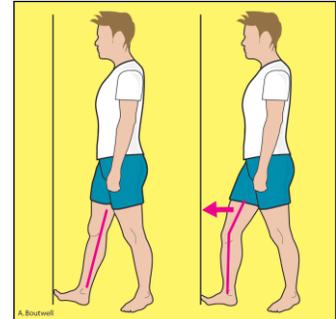
Stand about two feet away from a wall. Flex your left foot and place it against the bottom of a wall. Keep your back tall and straight. Lean forward from the hips as if you were trying to kiss the wall. Hold the stretch for 30 seconds. Repeat with the other leg.





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.



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.

