

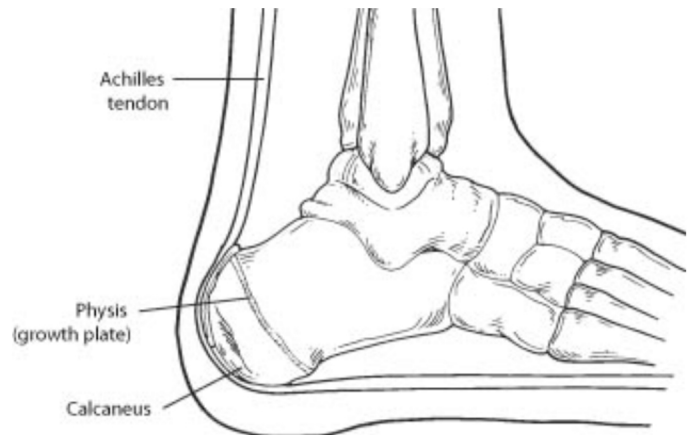
## Calcaneal Apophysitis (Sever's Disease)

### What Is Calcaneal Apophysitis?

Calcaneal apophysitis is a painful inflammation of the heel's growth plate. It typically affects children between the ages of 8 and 14 years old, because the heel bone (calcaneus) is not fully developed until at least age 14. Until then, new bone is forming at the growth plate (physis), a weak area located at the back of the heel. When there is too much repetitive stress on the growth plate, inflammation can develop.

Calcaneal apophysitis is also called Sever's disease, although it is not a true "disease." It is the most common cause of heel pain in children, and can occur in one or both feet.

Heel pain in children differs from the most common type of heel pain experienced by adults. While heel pain in adults usually subsides after a period of walking, pediatric heel pain generally doesn't improve in this manner. In fact, walking typically makes the pain worse.



### Causes

Overuse and stress on the heel bone through participation in sports is a major cause of calcaneal apophysitis. The heel's growth plate is sensitive to repeated running and pounding on hard surfaces, resulting in muscle strain and inflamed tissue. For this reason, children and adolescents involved in soccer, track, or basketball are especially vulnerable.

Other potential causes of calcaneal apophysitis include obesity, a tight Achilles tendon, and biomechanical problems such as flatfoot or a high-arched foot.

### Symptoms

Symptoms of calcaneal apophysitis may include:

- Pain in the back or bottom of the heel
- Limping
- Walking on toes
- Difficulty running, jumping, or participating in usual activities or sports
- Pain when the sides of the heel are squeezed

## Diagnosis

To diagnose the cause of the child's heel pain and rule out other more serious conditions, the examiner obtains a thorough medical history and asks questions about recent activities. The surgeon will also examine the child's foot and leg. X-rays may be used to evaluate the condition. Other advanced imaging studies and laboratory tests may also be ordered.

## Treatment

The examiner may select one or more of the following options to treat calcaneal apophysitis:

- **Activity Modification.** The child needs to reduce or stop any activity that causes pain.
- **Inserts/Braces.** Temporary shoe inserts or custom orthotic devices may provide support for the heel.
- **Medications.** Nonsteroidal anti-inflammatory drugs (NSAIDs), such as ibuprofen, help reduce the pain and inflammation.
- **Physical therapy.** Stretching or physical therapy modalities are sometimes used to promote healing of the inflamed issue.
- **Immobilization.** In some severe cases of pediatric heel pain, a cast may be used to promote healing while keeping the foot and ankle totally immobile.

Often heel pain in children returns after it has been treated because the heel bone is still growing. Recurrence of heel pain may be a sign of calcaneal apophysitis, or it may indicate a different problem.

As is the case with other physical overuse injuries, when a child is finished growing they will no longer experience this problem. The goal of treatment is symptomatic relief. The above mentioned methods can be used individually or in conjunction with one another when a child is experiencing discomfort. It is acceptable for children to continue participating in activities without the risk of doing long term damage while they are experiencing pain.