

Calcaneal apophysitis is a painful inflammation of the heel's growth plate. It typically affects children between the ages of 8 -14 years old as the heel bone (calcaneus) is not fully developed until at least age 14. The 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.

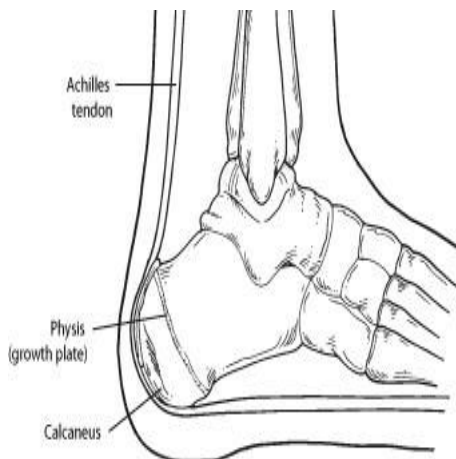
Calcaneal apophysitis is also called Sever's disease, although it is not a true "disease." It is the most common cause of heel pain in children, and can occur in one or both feet.

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 or running 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

Pain in the back or bottom of heel, limping, walking on toes, difficulty running, jumping, or participating in usual activities or sports.

Treatment

Reduce activity. The child needs to reduce or stop any activity that causes pain.

Support the heel. Temporary shoe inserts, heel lifts to reduce Achilles pulling to heel bone and/or orthotic devices will provide support for the heel.

Medications. Nonsteroidal anti-inflammatory drugs (NSAIDs), such as ibuprofen, help reduce the pain and inflammation.

Stretching/Icing. Stretching and icing help reduce strain and promote healing of the inflamed issue. A **night splint** can help improve ROM which is recommended.

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.

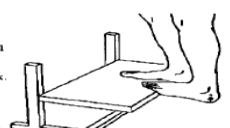



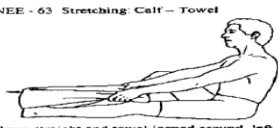
Often heel pain in children returns after it has been treated because the heel bone is still growing.

Recurrence of heel pain may be a sign of calcaneal apophysitis, or it may indicate a different problem.

Prevention:

The chances of a child developing heel pain can be reduced by:

- Avoiding obesity
- Choosing well-constructed, supportive shoes that are appropriate for the child's activity
- Avoiding or limiting wearing of cleated athletic shoes
- Avoiding activity beyond a child's ability.

<p>ANKLE / FOOT - 12 Plantar Fascia Stretch</p> <p>Standing with only ball of left foot on stair, push heel down until stretch is felt through arch of foot. Hold <u>10</u> seconds. Relax.</p> <p>Repeat <u>10</u> times per set. Do <u>1</u> sets per session. Do <u> </u> sessions per day.</p> 	<p>ANKLE / FOOT - 14 Gastroc Stretch</p> <p>Stand with right foot back, leg straight, forward leg bent. Keeping heel on floor, turned slightly out, lean into wall until stretch is felt in calf. Hold <u>10</u> seconds.</p> <p>Repeat <u>10</u> times per set. Do <u>1</u> sets per session. Do <u> </u> sessions per day.</p> 
<p>ANKLE / FOOT - 13 Soleus Stretch</p> <p>Stand with right foot back, both knees bent. Keeping heel on floor, turned slightly out, lean into wall until stretch is felt in lower calf. Hold <u>10</u> seconds.</p> <p>Repeat <u>10</u> times per set. Do <u>1</u> sets per session. Do <u> </u> sessions per day.</p> 	<p>ANKLE / FOOT - 34 PROM: Toe Flexion / Extension</p> <p>Gently grasp right toes and curl then straighten them. Hold each position <u>10</u> seconds.</p> <p>Repeat <u>10</u> times per set. Do <u>1</u> sets per session. Do <u> </u> sessions per day.</p> <p><u> </u> Have someone else move foot.</p> 
<p>HIP / KNEE - 63 Stretching Calf - Towel</p> <p>Sit with knee straight and towel looped around left foot. Gently pull on towel until stretch is felt in calf. Hold <u>10</u> seconds.</p> <p>Repeat <u>10</u> times per set. Do <u>1</u> sets per session. Do <u> </u> sessions per day.</p> 	<p>ANKLE / FOOT - 40 Toe Extension / Ankle Dorsiflexion: Self-Mobilization (Kneeling)</p> <p>On right knee and toes, lean down and back until gentle stretch is felt. Hold <u>10</u> seconds. Relax.</p> <p>Repeat <u>10</u> times per set. Do <u>1</u> sets per session. Do <u> </u> sessions per day.</p> 