

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.

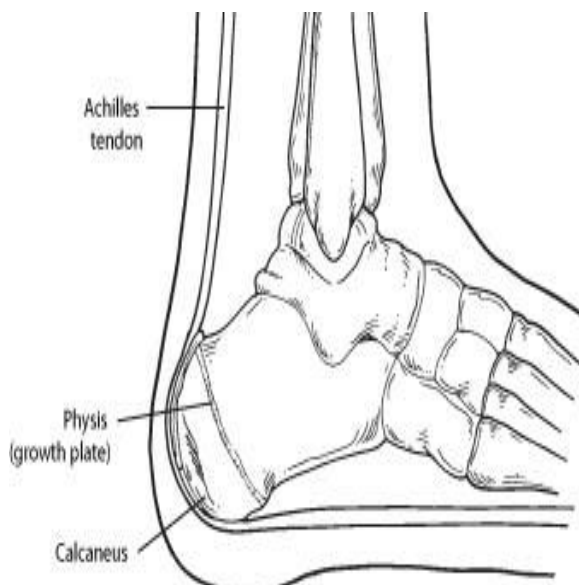
Immobilization. In some severe cases of pediatric heel pain, a cast may be used to promote healing while keeping the foot and ankle totally immobile.

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.

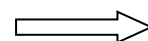
Prevention:

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.

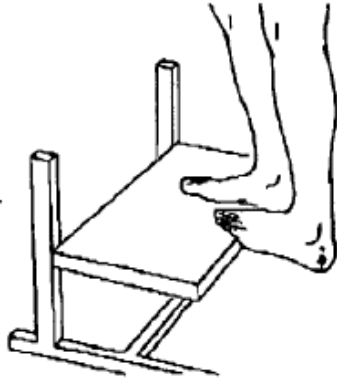


See stretches on back page



ANKLE / FOOT - Plantar Fascia Stretch

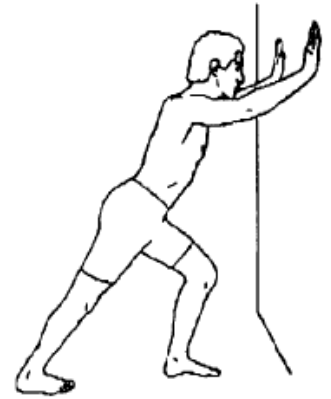
Standing with only ball of _____ foot on stair, push heel down until stretch is felt through arch of foot. Hold _____ seconds. Relax.



Repeat _____ times per set.
Do _____ sets per session.
Do _____ sessions per day.

ANKLE / FOOT - Gastroc Stretch

Stand with _____ foot back, leg straight, forward leg bent. Keeping heel on the floor, turned slightly out, lean into wall until stretch is felt in calf. Hold for _____ seconds.



Repeat _____ times per set.
Do _____ sets per session.
Do _____ sessions per day.

ANKLE / FOOT - Soleus Stretch

Stand with _____ foot back, both knees bent. Keeping heel on floor, turned slightly out, lean into wall until stretch is felt in lower calf. Hold for _____ seconds.



Repeat _____ times per set.
Do _____ sets per session.
Do _____ sessions per day.

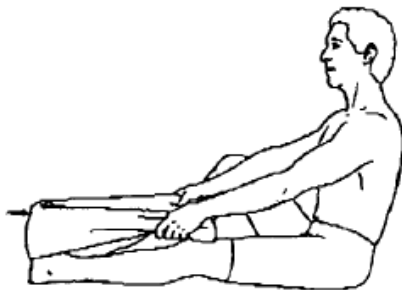
ANKLE / FOOT - Toe Flexion / Extension

Gently grasp _____ toes and curl then straighten them. Hold each position for _____ seconds.



Repeat _____ times per set.
Do _____ sets per session.
Do _____ sessions per day.

HIP / KNEE - Calf Towel Stretch



Sit with knee straight and towel looped around _____ foot. Gently pull on towel until stretch is felt in calf. Hold for _____ seconds.

Repeat _____ times per set.
Do _____ sets per session.
Do _____ sessions per day.

ANKLE / FOOT - Toe Extension / Ankle Dorsiflexion

On _____ knee and toes, lean down and back until gentle stretch is felt. Hold for _____ seconds. Relax.



Repeat _____ times per set.
Do _____ sets per session.
Do _____ sessions per day.