

Sever's disease

Sever's disease is a common cause of heel pain, particularly in the young and physically active. It usually develops just before puberty. Boys are slightly more prone to this condition than girls. Physiotherapy can help manage the symptoms of Sever's disease so that the young person can continue to engage in physical activity. Another name for Sever's disease is calcaneal apophysitis.

The structure of the heel

A big tendon called the 'Achilles' tendon joins the calf muscle at the back of the leg to the heel. Sever's disease is thought to occur because of a mismatch in growth of the calf bones to the calf muscle and Achilles tendon. If the bones grow faster than the muscles, the Achilles tendon that is attached to the muscle to the heel gets tight. At the same time, until the cartilage of the calcaneum is ossified (turned into bone) it is a potential 'weak' spot. The tight calf muscle and Achilles tendon cause a traction injury on this 'weak' spot. This injury results in inflammation and pain.

Sever's disease most commonly affects boys aged ten to 12 years and girls aged nine to 11 years, when growth spurts are beginning. Sever's disease heals itself with time. This is known as 'self limiting'. There is no evidence to suggest that Sever's disease causes any long-term problems or complications.

Symptoms of Sever's disease

There are a few signs and symptoms that indicate Sever's disease, which may affect one or both heels. These include:

- Pain at the heel or around the Achilles tendon
- Heel pain during physical exercise, especially activities that require running or jumping
- Worsening of pain after exercise
- A tender swelling or bulge on the heel that is sore to touch
- Calf muscle stiffness first thing in the morning
- Limping
- A tendency to tiptoe.

Contributing factors to Sever's disease

Apart from age, other factors that may contribute to developing Sever's disease include:

- **Physical activity** – any form of exercise that is weight bearing through the legs or stresses the soft tissue can exacerbate the pain of the disease.
- **External factors** – for example, running on hard surfaces or wearing inappropriate shoes during sport.
- **Overuse injury** – very active children may repeatedly but subtly injure the bones, muscles and tendons of their feet and ankles. In time, the accumulated injuries cause symptoms.

Diagnosis of Sever's disease

A physiotherapist can diagnose Sever's disease by asking the young person to describe their symptoms and by conducting a physical examination. In some instances an x-ray may be necessary to rule out other causes of heel pain, such as heel fractures. Sever's disease does not show on an x-ray because the damage is in the cartilage.

Treatment of Sever's disease

Treatment depends on the severity of the condition but may include:

- **Relative rest and modified activity** – a physiotherapist can help work out what, and how much, activity to undertake.
- **Cold packs** – apply ice or cold packs to the back of the heels for around 15 minutes after any physical activity, including walking.
- **Shoe inserts** – small heel inserts worn inside the shoes can take some of the traction pressure off the Achilles tendons. This will only be required in the short term.
- **Medication** – pain-killing medication may help in extreme cases but should always be combined with other treatment.
- **Splinting or casting** – in severe cases, it may be necessary to immobilise the lower leg using a splint or cast, but this is rare.
- **Time** – generally it will take one to two weeks for the pain to ease, although there may be flare-ups from time to time.
- **Correction of any biomechanical issues** – a physiotherapist can identify and discuss any biomechanical issues that may cause or worsen the condition.

Education on how to self-manage the symptoms and flare-ups of Sever's disease is an essential part of the treatment provided by physiotherapists.

Other possible causes of heel pain

Other causes of heel pain include:

- **Plantar fasciitis** – inflammation of the ligament that runs from the heel bone along the sole of the foot. Causes include flat feet and stiff shoes.
- **Bursitis** – bursae are small sacs that contain fluid to lubricate moving parts such as joints and muscles. Common causes of bursitis at the back of the heel include injury, overuse and tight shoes.
- **Achilles tendonitis** – the Achilles tendon joins the calf muscle to the heel. Inflammation of this tendon can be caused by stiff calf muscles and running on hard surfaces like concrete or bitumen.
- **Stress fracture** – a hard impact or awkward landing may fracture (break) the heel bone.

Where to get help

- A physiotherapist
- Australian Physiotherapy Association Tel. (03) 9092 0888
- A podiatrist
- Your doctor

Things to remember

- Sever's disease is a common cause of heel pain, particularly in the young and physically active.
- Just before puberty, the bone typically grows faster than the surrounding soft tissue, which means the Achilles tendon is pulled uncomfortably tight. This can lead to an injured heel.
- Treatment includes relative rest, modifying activities and teaching the young person how to manage the condition when a flare-up happens.
- Sever's disease is 'self limiting' and rarely causes long-term problems.

This page has been produced in consultation with, and approved by:

Australian Physiotherapy Association

Content on this website is provided for education and information purposes only. Information about a therapy, service, product or treatment does not imply endorsement and is not intended to replace advice from your doctor or other registered health professional. Content has been prepared for Victorian residents and wider Australian audiences, and was accurate at the time of publication. Readers should note that, over time, currency and completeness of the information may change. All users are urged to always seek advice from a registered health care professional for diagnosis and answers to their medical questions.

For the latest updates and more information, visit www.betterhealth.vic.gov.au

Copyright © 1999/2012 State of Victoria. Reproduced from the Better Health Channel (www.betterhealth.vic.gov.au) at no cost with permission of the Victorian Minister for Health. Unauthorised reproduction and other uses comprised in the copyright are prohibited without permission.