

Calcaneal Apophysitis

Milton J. Stern, DPM

What is it, Causes, Symptoms and Treatment

What Is Calcaneal Apophysitis?



Calcaneal apophysitis, also known as Sever's disease, is a common cause of heel pain in children and adolescents. Despite its name, it is not a true disease but rather an overuse injury that affects the growth plate in the heel bone (calcaneus). This condition typically occurs during periods of rapid growth and is most common in active children between the ages of 8 and 14. In this article, we'll explore what calcaneal apophysitis is, its causes, symptoms, and available treatment options.

Calcaneal apophysitis is an inflammation of the growth plate (apophysis) in the heel bone. The growth plate is an area of developing cartilage at the end of a bone that allows the bone to grow. In children and adolescents, this area is more susceptible to injury because it is not yet fully hardened into bone. Repetitive stress on the heel, particularly during physical activities, can cause irritation and pain in this area.



Causes of Calcaneal Apophysitis

Calcaneal apophysitis is primarily caused by repetitive stress on the heel bone and its growth plate. Factors that contribute to this condition include:

1. **Rapid Growth:** During growth spurts, bones often grow faster than muscles and tendons, leading to tightness and increased tension on the heel.
2. **Physical Activity:** High-impact sports or activities that involve running, jumping, or sudden changes in direction (e.g., soccer, basketball, gymnastics) can strain the heel.
3. **Tight Achilles Tendon:** A tight Achilles tendon can pull on the growth plate, exacerbating the condition.
4. **Improper Footwear:** Wearing shoes that lack proper support or cushioning can increase stress on the heel.
5. **Flat Feet or High Arches:** Abnormal foot mechanics can place additional strain on the heel.
6. **Overuse:** Participating in sports or activities without adequate rest can lead to repetitive stress injuries.

Symptoms of Calcaneal Apophysitis

The most common symptom of calcaneal apophysitis is heel pain, which may be mild to severe. Other symptoms include:

- Pain that worsens during or after physical activity.
- Tenderness or swelling in the back or bottom of the heel.
- Limping or walking on tiptoes to avoid putting pressure on the heel.
- Stiffness in the foot or heel, especially in the morning or after rest.
- Pain that improves with rest but returns with activity.

The pain is typically localized to the heel and may affect one or both feet.



Treatment Options for Calcaneal Apophysitis

The goal of treatment is to reduce pain and inflammation while allowing the growth plate to heal. Most cases of calcaneal apophysitis can be managed with conservative treatments, including:

1. Non-Surgical Treatments



- **Rest:** Reducing or avoiding activities that aggravate the heel pain is essential for healing.
- **Ice Therapy:** Applying ice packs to the heel for 15–20 minutes several times a day can help reduce pain and swelling.
- **Stretching Exercises:** Gentle stretching of the Achilles tendon and calf muscles can relieve tension on the heel.
- **Supportive Footwear:** Wearing shoes with good arch support and cushioning can reduce stress on the heel.
- **Orthotic Inserts:** Custom or over-the-counter heel pads or orthotics can provide additional support and cushioning.
- **Pain Relief Medications:** Over-the-counter pain relievers like ibuprofen or acetaminophen can help manage pain and inflammation.
- **Activity Modification:** Switching to low-impact activities, such as swimming or cycling, can allow the heel to heal while maintaining fitness.



2. Physical Therapy

In some cases, a physical therapist may recommend specific exercises to improve flexibility, strength, and foot mechanics. This can help prevent recurrence of the condition.

3. Immobilization

In severe cases, a doctor may recommend a short period of immobilization using a walking boot or cast to allow the heel to heal.



Preventing Calcaneal Apophysitis

To reduce the risk of calcaneal apophysitis, consider the following preventive measures:

- Encourage children to wear supportive, well-fitting shoes for sports and daily activities.
- Ensure proper warm-up and stretching before physical activities.
- Avoid overtraining or participating in high-impact sports without adequate rest.
- Monitor for signs of heel pain and address them early to prevent worsening symptoms.

When to See a Doctor

If your child experiences persistent heel pain that does not improve with rest or home remedies, consult a pediatrician, podiatrist, or orthopedic specialist. Early diagnosis and treatment can help prevent complications and ensure a full recovery.

Conclusion

Calcaneal apophysitis is a common cause of heel pain in active children and adolescents. While it can be painful, the condition is temporary and typically resolves with proper treatment and rest. By understanding the causes, recognizing the symptoms, and implementing appropriate treatment strategies, parents and caregivers can help their children recover and return to their favorite activities. Encouraging proper footwear, stretching, and activity moderation are key steps in preventing this condition and promoting healthy foot development.