

Leadership

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The Sports Medicine Program offers medical, orthopaedic and rehabilitation services for student athletes at the middle school, high school and elite levels.

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Sever's Disease (Heel Pain)

Sever's disease, also called calcaneal apophysitis, is a condition that causes pain, swelling (inflammation) and tenderness in the heel. It is directly related to the overuse of the bone and tendons in the heels of active athletes. This condition is commonly seen in growing boys and girls who participate in running and jumping activities.

Two large muscles in the calf, the gastrocnemius and soleus, join and become the Achilles tendon (heel cord) (see Figure 1). The Achilles tendon inserts into the growth area of the heel bone. These powerful muscles pull on the heel to push the foot down and propel the body forward during running and jumping exercises. The repetitive pulling of the Achilles tendon can overwork the growth center of the heel bone and lead to Sever's disease.

FIGURE 1



Are X-rays necessary?

X-rays may be done to confirm the diagnosis or to exclude other problems. Often, the diagnosis is made based on clinical information and the doctor's experience. X-rays are more likely to be ordered if the condition affects only one side, or if there are other factors raising your doctor's concern to other possible diagnoses.

What can be done?

Treatment for Sever's disease includes applying ice to the heel, taking anti-inflammatory medicines as directed by the doctor and modifying activities. While this overuse condition can persist for two to three years, it does not lead to any problems later in life.

In addition, use good running shoes with built-up heel cups that help soften the impact on the heel when walking, running or standing. Baseball and soccer shoes generally do not have well-supported heel areas, but a heel cup can be added. The heel lift also may alter the mechanics slightly by raising the heel. Heel cups that are available in sporting goods stores usually are flimsy and flatten after being worn a few times. Heel cups made of $\frac{3}{8}$ -inch felt or silicone stand up to considerably more wear. For athletes, such as gymnasts and dancers, where shoe modifications are not practical, other strategies can help.

Relief treatments

Physical therapy: Physical therapy may be ordered by your doctor to instruct the athlete in proper calf and Achilles tendon stretching and strengthening exercises.

Ice: Icing can be an effective anti-inflammatory treatment. The best time to apply ice is immediately after a workout, such as the car ride home from the game or practice. One way to ice is to apply an ice cup massage. Fill several plastic foam cups with water and freeze them. When frozen, tear off 1 inch around the cup's rim to create a frozen snow cone. The ice should be applied directly to the sore area in a circular massaging motion until the area becomes numb, usually about 10 to 15 minutes. This type of massage can be repeated every 60 to 90 minutes, several times a day.

Medicine: Nonsteroidal anti-inflammatory drugs (NSAIDs) can be another effective treatment. Your doctor may suggest an over-the-counter medicine, such as ibuprofen (Motrin or Advil) or naproxen (Aleve), or prescribe medicine. For young athletes who can swallow pills, naproxen works well, because it needs to be taken only twice a day (morning and night). It does not need to be taken during school or right before workouts. Ibuprofen should be taken three times a day. Anti-inflammatory medicine should be taken for 10 to 14 days to allow the medicine to build to therapeutic levels in the body. Taking medicine infrequently allows the medicine levels to drop, which decreases its effectiveness.

Activity modification: As with many other orthopaedic aches and pains related to overuse, Sever's disease can be relieved with a combination of the above relief treatments and resting from the athletic activities that are increasing the pain.