

Inside: Special Guide to all the New Running Shoes

# RUNNING

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IMES

## New Shoes

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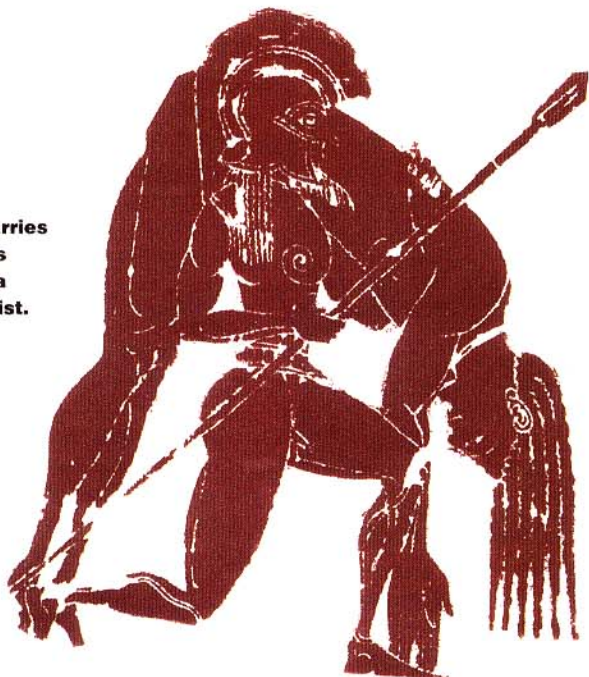
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**Ajax carries Achilles to see a podiatrist.**



## Everything for the Achilles

A guide to the runner's most tender tendon

By definition, your Achilles' heel is your greatest vulnerability. For many runners, this is the tendon of the same name. Runners' battles with this troublesome tendon are not new; the Greek war hero Achilles is rumored to have killed himself when his tendinitis didn't respond to conservative treatment and he could no longer run. Advances in sports medicine over the last few thousand years aside, a touch of Achilles tendinitis has frustrated more than a few modern runners.

Consider that during fast running, at each step, forces as high as 900 kilograms are applied to the

tendon; this is up to 13 times the average person's body weight. A healthy tendon can handle this load, but myriad factors increase stress and strain on it. Injury to the area commonly progresses through definable stages. Early recognition and treatment are crucial; because of a poor blood supply to the area, healing is slow, and what starts as a mild ache can quickly degenerate into a career-threatening condition. Here are some grades of Achilles injury:

### Peritendinitis

Many tendons in the body are enclosed in a tendon sheath (similar to

electric wires being covered with insulation). The Achilles tendon, however, has no sheath, but is encompassed by deep tissue layers known as the peritenon. Peritendinitis (inflammation of the peritenon) is more common than Achilles tendinitis (inflammation of the tendon). This is because blood supply to the peritenon is greater than to the tendon, so the inflammation process starts there first as the tissue layers begin to thicken and swell from deposits of fibrous material. Pain usually starts as a burning, prickly sensation between 2 and 6 centimeters above where the Achilles is attached to the heel bone.

Causes include:

- Muscle imbalances
- Excessive pronation
- Building mileage too quickly
- Running sustained high mileage
- Running on uneven surfaces
- Excessive hill running
- Wearing improper shoes

The sooner you pay attention to pain in your Achilles area, the better. Early on, do whatever is necessary to ensure that all activity is pain-free; if that means no running, so be it. Even if you can run pain-free, avoid hills and speed work (both of which increase stress on the Achilles), and cut your distance in half, if not by more. Other quick-strike treatments include 10 to

## Getting a Leg Up on Achilles Problems

Prevention is all too often left to runners who have already suffered injury. To lengthen your Achilles tendons' lives, follow this short list:

- Make rest and easy days part of your schedule.
- Perform proper warm-ups and cool-downs, and stretch your calves and hamstrings regularly.
- Use racing flats sparingly, change shoes frequently, and change running routes and directions to avoid uneven surfaces.
- If hill running is part of your training, warm up thoroughly before attacking hills. The day after a hilly workout, vary your course to allow for flat runs.
- If you think you overpronate excessively, consider a biomechanical evaluation and orthotics.

20 minutes of ice massage a few times a day and placing heel lifts in all your shoes. Gentle stretching can help, if doing so doesn't cause pain.

### Achilles Tendinitis

Ignore the warning signs of peritendinitis, and inflammation will spread into the tendon itself, leading to that most famous of running injuries, Achilles tendinitis. Inside the tendon, fibers separate and granulation tissue settles in the tendon; in some cases,

## Get the Balance Right

**M**any runners suffer from muscle imbalances. Running tightens the posterior muscle groups (calves and hamstrings) while it weakens the muscles in front of the leg and thigh. The tightness leads to contracture of the gastrocnemius and soleus, short-

ening these muscles. This contracture increases the stress on the Achilles, as it has to do some of the work designed for stronger, more flexible muscles. This process is similar to that encountered by women who wear high heels for many years and have difficulty returning to flat shoes. The cure, besides ditching those seven-inch pumps, is the regular stretching of your calves and hamstrings to keep them long and supple, not short and taut.

calcification occurs. When this happens, the tendon no longer glides smoothly, and this results in an inefficient, painful, swollen Achilles.

This injury will not improve if running with pain is continued; do not run with Achilles tendinitis. Cross-train or run in the pool. If walking is painful, use crutches to eliminate stress on the tendon. If pain lasts more than two weeks, seek a sports-medicine professional for an evaluation. Anti-inflammatories, along with therapy such as ultrasound and electric

stimulation, will help to reduce the swelling. An important note: cortisone injections should rarely be used in the Achilles tendon.

### Tendonosis

Tendonosis occurs in the latter stages of tendinitis. Tendonosis usually indicates that there are areas of fibrosis, or excess amounts of reparative fibers, in the Achilles tendon. It is a much more chronic state of injury than peritendinitis and Achilles tendinitis and requires a much longer healing time.

How will you know

whether your injury has degenerated to this stage? If your Achilles tendon has thickened and has bands along it that you can clearly feel, you need help.

If things are this bad, you need to rest the area completely. In some cases, conservative therapy should continue for

up to one year. If symptoms remain, surgery may be recommended. In many cases, surgical repair, by release of the peritenon, can offer relief to runners who have suffered with long-term Achilles problems.

### Cysts

Although they're not common, I believe that if more Achilles tendons were operated on in a late stage of disease, more cysts would be discovered. Usually, a tendon under stress that develops into tendinitis tries to repair itself. In some cases, the body repairs the area irregularly. Instead of laying down more fibrous tissue that may eventually return the tendon to normal, the body deposits a fatty tissue. This can become a repetitive cycle as a runner continues to abuse a tendon that is in the repair stage. To avoid having the tendon get to this late stage of disease, pay immediate attention to any flare-ups. Achilles didn't, and look what happened to him. **RT**

### Anatomy of an Acher

**T**he Achilles tendon begins in the middle of the leg and is attached to the back of the heel bone. The gastrocnemius and the soleus muscles combine to form the thickest, strongest tendon in your body. This thick, rope-like structure's main function is to lift the heel during the gait cycle. Try to walk without lifting your heel, and you'll quickly realize the importance of the Achilles tendon.



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