

Win the Sprain Game

It's time to rethink the lowly sprain. It causes hidden damage that can lead to reinjury, researchers now realize. Don't let it happen to you

BY STEPHEN FRIED
PHOTOGRAPH BY BARTHOLOMEW COOKE

LOTS OF MEN WORRY ABOUT THEIR BACK GOING OUT—or their knees just going. The lowly ankle sprain, however, is viewed as the common cold of musculoskeletal injuries. • It happens, and you get over it. It's hard to avoid. • But a growing number of researchers, surgeons, and trainers believe it's time to rethink this joint. A sprained ankle is the most common injury in sports, and yet our understanding of it is only now coming into focus. Sprains cause more damage than we once thought they did, and we can do a lot more to prevent the fallout. • In short, "Walk it off" may not be the proper

response. • Every day, 25,000 Americans turn an ankle: That's 9 million sprains a year. A recent study using data from NBA team doctors and trainers found that ankle sprains are the most common injury among pro basketball players, on and off the court. That's why international conferences are devoted to the joint. • Jay Hertel, Ph.D., A.T.C., FACSM, who studies ankles at the University of Virginia, says that until recently, sprains were considered largely benign after the initial pain and swelling went away. But opinions have changed: Inadequate treatment could prime you for years of residual pain and resprains, he says. Some 30 percent of sprain victims

face chronic ankle instability. In one study, 34 percent of people who sprained an ankle went on to sprain it again in the following 3 years.

The ligaments in your ankle, Hertel says, are laced with sensory receptors. “These are responsible for telling the brain where the ankle is in space,” he says. When a sprain occurs, some of these sensors are permanently damaged; as a result, your ankle can’t communicate as well with your brain.

That’s where rehab comes in. “If you stop treating an injured ankle as soon as the symptoms go away, you *will* have problems down the line,” Hertel says. Rehab, when approached correctly, can help you regain a kind of ankle virginity—that is, if you remain sprain-free for a year, your risk returns to what it was before your mishap. The secret to reclaiming your ankle’s V-card lies in the four steps below.

Assess

Beneath that bloated purple mass are three groups of ligaments that hold (or used to hold) the joint in place. They can stretch and loosen (a grade I sprain), stretch and partially tear (grade II), or tear completely (grade III). In the “high ankle sprain” of NFL injury reports, the large ligaments connecting your ankle to your two lower-leg bones are also damaged.

Your immediate diagnosis is simple: “There’s mild or severe. You can either walk or you can’t,” says John Kennedy, M.D., an orthopedic surgeon at the Hospital for Special Surgery in New York City. If you aren’t able to bear weight on your foot, seek immediate medical attention so a doctor can further diagnose the severity of your sprain. Otherwise, proceed to the next step.

Rest

And add to this “ice,” “compression,” and “elevation” for the textbook RICE treatment, which everyone knows about—and nearly everyone screws up.

Once at rest, wrap a compression bandage comfortably around the foot and ankle to minimize swelling. When an ankle is swollen, “the fibers in the ligaments are pushed in different directions, and they may not heal in their natural anatomic position,” says orthopedic surgeon Mark Drakos, M.D., the lead author of the NBA injury study.

Elevate your ankle above your heart to prevent fluid accumulation, and apply an ice pack for 20 minutes. This requires a couch or bed—your desk chair won’t work. For 2 days, ice the joint every 2 hours for 20 minutes at a time.

Of course, you still have to move around. “The biggest difference between the way you treat a sprained ankle and the way a pro athlete treats one,” Hertel says, “is that when he leaves the stadium, his foot is immobilized in a walking boot.” A British study found that immobilization is a more effective sprain-healing strategy than an elastic bandage is.

So for a severe sprain, a compression bandage isn’t immobilizing enough. Ask your doctor if you can use a walking boot so you can resume part of your regular life. But you can take immobilization too far. You still have to . . .

Exercise

With your foot elevated and your heel held still, write the alphabet in capital letters with your big toe. Complete this 10-minute range-of-motion routine four times a day the first 2 days after your injury, says Dr. Drakos.

After 48 hours, here’s your drill: Set up two tubs, one with hot water and one with crushed ice and water. Take off any wrap or boot you’re using, immerse your ankle in the hot water, and do the alphabet exercise for 5 minutes. Then dunk your foot in the ice water, keeping your heel on the bottom of the tub and lifting your toes so they touch the side. Hold that position for 8 seconds, and relax for 2 seconds. Repeat for a total of six times. Then alternate 30-second hot and cold dunks for the next 4 minutes.

Do this drill three more times throughout the day, reducing the hot-water-alphabet step by a minute each time. This causes your blood vessels to dilate, helping to clear fluid and reduce inflammation.

Keep wearing the compression wrap when you’re not dunking your ankle, or until it is no longer swollen or painful.

Balance

When the ankle looks normal and feels good again, most guys end treatment and start thinking about their next game. But the next step—called proprioceptive training—is crucial. It

encourages balance, stability, and a sense of where your ankle is in space.

“It’s a huge component of what we do,” says Jack McPhilemy, D.O., an orthopedic surgeon at Lankenau Hospital, in Philadelphia, and the team doctor for the 76ers. “We’re trying to make athletes more aware of when the ankle is beginning to roll—make that message to the brain travel faster so it sends out a signal to resist.”

Your first move: Lift your healthy foot and stand on the other foot while you brush your teeth. Do this twice a day for 3 minutes, and you’ve engaged in the most basic form of proprioceptive training. (For a more advanced routine, see “Your Ankle-Saving Workout,” below.)

Everyone knows the textbook rest-and-ice treatment, and nearly everyone screws it up.

One unpublished study of volleyball players showed that balance training can reduce the incidence of ankle sprains by at least half. Researchers say our brains need up to 120 milliseconds—three times longer than the 30 to 50 milliseconds it takes to roll an ankle—to send a message to stop the process. So balance training may be massaging your mind.

“Patients who have had a significant ankle injury often feel they are performing at a lower level than they were before the injury—even if they aren’t,” says Dr. Kennedy. “They come to feel it’s a weaker part of their body. And the only solution is to make them feel it can become the *strongest* part of their body, with these exercises. At the core of these exercises is balance. You know, life is balance; balance is life. It’s not just in your ankle, but it’s a good place to start.” ■

Your ankle-saving workout

These exercises help your brain monitor your ankle’s position and improve balance, says KyungMo Han, Ph.D., A.T.C., C.S.C.S., of San Jose State University, who designed the routine. Do this every other day for 4 weeks. For each exercise, complete 3 sets of 15 repetitions. Secure one end of a 6-foot band of elastic tubing with foot straps below the lowest hinge on a door, slightly higher than ankle height. Attach the strap around the bony part of your uninjured ankle.

<p>1 →</p> <p>Front pull</p> <p>Stand with your back to the door, and then step away until the tubing is stretched to a comfortable level of resistance. Place your free foot 2 to 3 feet in front of the other one, your free foot’s toes digging in, knee slightly bent, heel lifted. Draw the tethered foot forward until it’s about 2 to 3 inches in front of your free foot. Slowly return to the starting position.</p>	<p>2 →</p> <p>Back pull</p> <p>Face the door. Stand on your free foot, knee slightly bent, toes digging in, heel slightly lifted. Start with your tethered foot 1 to 3 inches in front of your free foot. Pull your tethered foot backward 2 to 3 feet, extending at your hip and knee. Touch your toes to the ground, heel flexed, before slowly returning to the starting position.</p>	<p>3 →</p> <p>Crossover</p> <p>Stand with your uninjured side facing the door, with your feet just beyond shoulder width and your hips and knees slightly bent. Keep your free foot firmly planted while crossing the tethered foot across your body. When it reaches the other side of your planted foot, touch your toes to the floor; slowly return to the starting position.</p>	<p>4 →</p> <p>Reverse crossover</p> <p>Repeat the crossover exercise, but this time with your injured side facing the door.</p>
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