

SPECIAL FITNESS ISSUE: THE FOOT

What's in store for those aging feet? Bigger shoes

Tendons, ligaments lose elasticity over time, flattening the feet. Good footwear — the right fit, ample cushioning — can help.

By Mary Beckman, Special to The Times
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Through the years

ONE thing that doesn't shrink when people get older are feet: They enlarge. More specifically, they flatten.

The feet's tendons and ligaments lose some of their elasticity and don't hold the bones and joints together as tidily. When combined with other aging-related changes, the feet can encounter limits to how much use — or abuse — they can take.

Dr. Steven Pribut, a podiatrist at George Washington University Medical Center in Washington, D.C., estimates that some people over the age of 40 can gain half a shoe size every 10 years.

"The changes that take place in the foot are like those that take place in the rest of our body as we age," adds Dr. Jim Christina, director of scientific affairs at the American Podiatric Medical Assn. in Bethesda, Md.

With time, tissues weaken and muscle mass declines and our bodies lose that youthful bounce and vigor. "But putting weight on our feet makes them unique," he says.

Gravity gradually overwhelms the older, less resilient ligaments in the weight-bearing feet but not in the free-floating hands. It also squeezes fluid from leaky veins in the lower extremities, contributing to swelling.

Looser tendons and ligaments mean more than the need for bigger shoes. As the front of the foot widens and the arch lowers, the foot becomes not only longer but more flexible and flatter, letting the ankle roll inward and increasing the chance for sprains, says Dr. Kendrick Whitney, an assistant professor at Temple University School of Medicine in Philadelphia.

Then there's the constant force of bearing weight that causes the fat pads cushioning the bottom of the feet to thin out.

"Even if you get fatter and heavier, the fat pads still get thinner," says Dr. Mark Caselli, an adjunct professor at the New York College of Podiatric Medicine in New York City. When this happens, they can absorb less shock, which can make feet sore and painful after time.

The loss of padding can also cause corns and calluses on your balls and heels, Caselli says, "which for athletes can cause problems when performing activities."

Whitney adds: "It feels like you're walking directly on your bones."

As the foot becomes wider, longer and less padded, the plantar fascia tendon that runs along the length of the sole and forms the arch becomes stretched, contributing to the lowering of the arch. A lower arch contributes to bunions, sometimes painful, bony prominences sticking out from the big toe.

Foot flattening has the added disadvantage of pulling the big toe up. This can cause pain in its own right, but if a big toe is sticking up and in a too-tight shoe, it can rub against the top of the shoe, thickening the toenail and possibly damaging it.

"When the toenails turn black a few times, people start paying attention," Pribut says.

Osteoarthritis, rheumatoid arthritis and osteoporosis can pester joints and bones of the feet as well, especially in the big toe, already hampered by tendons and ligaments pulling it up. These conditions can cause damage to bones and joints, and thin bones are more prone to stress fractures.

These changes in foot structure affect balance and gait. In a study soon to be published in the journal *Gait and Posture*, a group of researchers, including Hylton Menz of La Trobe University in Bundoora, Australia, found that healthy people in their 80s put less force under parts of the foot that are important for balance than did people in their 20s. They also found, in two other studies in 2006, that these and other changes are associated with an increased risk of falls.

For example, older people who had weaker, less flexible ankles as well as other problems such as bunions or reduced sensation on the bottoms of their feet were more likely to fall during the course of the study than less problem-ridden volunteers.

The most obvious age-related change, however, can be overlooked by many people. A 2006 study looked at the footwear choices of 440 patients at a U.S. veterans' affairs hospital — most of whom were men, averaging about 67 years — and found that only 25% of them were wearing the right size shoe.

"Over the years, people tend to remember their Social Security number and their shoe size, but they're remembering their shoe size from when they were 25 years old," Caselli says.

When too-tight shoes are combined with declining circulation — which means less sensitive feet — the skin of the feet can suffer undue friction. This friction causes hard bumps of skin — calluses and corns — that can also be painful. There's plenty of help for aging feet, though. The right size shoes — properly fitted, with good support and cushioning — are key. Even so, experts say older feet won't have the same stamina that they did in their youth.

Shoes should have good cushioning in the heel to make up for the loss of natural padding, and the widest part of the foot — usually the front — should fit the widest part of the shoe. "Some people think, 'Just get a bigger shoe size,' " Caselli says, "but if the shoes are too long, they will pinch the toes."

Many experts recommend keeping the leg muscles in good shape. Out-of-shape calf muscles can torment the plantar fascia and Achilles tendons. Basic stretching and weight-bearing exercises help prevent muscle and bone loss and improve circulation.

Dr. Arthur Helfand, a podiatrist, retired researcher and author in Narberth, Penn., says to take your feet into your own hands in the doctor's office, where feet are often neglected.

"Don't wait to be asked when you go in for your checkup. Take your shoes and socks off," he says. Often, physicians will observe a person's gait but not look at the overall shape and fitness of the feet, such as areas of increased friction.

Caselli says there's no need for people to retire from an athletic life. "You shouldn't cut activities out. Just decrease how much you do, to compensate for the wear and tear on your body," he says.

Pribut agrees that the older athlete needs to slow down a tad. He recently told a 70-year-old sprinter who needed to qualify for a big race what many athletes don't want to hear: Just do well enough to qualify. "I convinced him it's important to get to the big game and not hurt himself in the process."