

What Your Feet Might Say About Your Health

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STORY AT-A-GLANCE

- › The average adult walks roughly 75,000 miles in their lifetime, which is equivalent to walking three times around the world. Many people experience pain and discomfort in their feet that may be alleviated with simple changes to the way they walk or their footwear
- › Start with purchasing the right shoes for your foot type, which may necessitate visiting a good shoe or running shoe store. Factors that are important are flexibility, stiffness, structure, insoles and the shape of the toe box
- › You may not be wearing the right shoes if you have sore spots on your feet, the shoes wear out quickly and are unevenly worn, you have pain in your knees, hips and back, or if you are fiddling with your shoes throughout the day
- › Pay attention to your feet at the end of each day, watching for signs of metabolic or heart conditions that include ulcers that don't heal, dry flaky skin, bald toes, splinter hemorrhages or clubbing

You may not think about them frequently, but your feet affect your whole body. Not many people take the time to inspect their feet at the end of the day, but maybe you should. Over an average adult lifetime, you walk nearly 75,000 miles. This is equivalent to walking around the globe three times.¹ That is a lot of traveling on two feet.

Like all things health-related, prevention is better than a cure. Mobility is key to preventing disability and living independently. According to the National Institute on Aging,² changes in mobility can result from changes in the way you walk, physical

strength and balance. These factors increase the number of falls in the elderly and make it less likely they can live at home.

As you may have guessed, in one study³ researchers found that loss of mobility associated with multiple sclerosis was correlated with a loss of activities of daily living and reduced socioeconomic status. In another study⁴ of 498 participants with a median age of 30 years, the researchers found a lower score in physical activity, vitality and footwear in those who had a lower quality of life.

Given how much we rely on our feet, it's probably not surprising that at some point, many people experience problems. One 2014 study⁵ from the American Podiatric Medical Association showed that 77% of those who participated had experienced foot pain that had a profound impact on their quality of life, including restricting activities. APMA President Frank Spinoso, DPM, commented in a press release:⁶

"It's not surprising to see how many people are affected by foot pain, when survey results show that we view our feet as the least important body part in terms of our overall health and wellbeing. Our feet are literally and figuratively the furthest things from our minds."

Start With the Right Shoes

The way you walk is influenced by the shoes you wear. Changing your gait can cause your body to compensate in other areas, which can lead to knee, hip and back pain. An imbalance in your feet can also cause a posture problem. This makes you more prone to accidental slips and falls.

When you experience foot pain, you automatically try to redistribute your weight, so it doesn't create more pain. This changes your posture and over time it can become habitual. According to podiatrist Dr. Nicole Nicolosi⁷ from Cleveland Clinic, you should evaluate certain factors when buying your shoes.

Shoes should have some structural support. They shouldn't be completely stiff, but you also shouldn't be able to bend them completely in half. The top of the shoe should have

flexible material, especially over the toe box. Hard leather can increase pressure over the toes, which can result in rubbing and sores.

Also, pay attention to the insoles in the shoe. They should have some cushion, which gives your arch some support. Examples of types of shoes without cushion or support are flats, flip-flops and sheepskin boots that are popular during winter weather. Additionally, when you wear flip-flops, your toes grip the shoe as you're walking, which also changes your gait and puts additional stress on your feet and knees.

Pointy-toed shoes, like cowboy boots, some men's dress shoes and stiletto heels, compress the forefoot, which in turn impinges on other structures. Long term this can result in nerve scarring or thickening, creating a neuroma, which is a benign growth of nerve tissue that commonly grows between the third and fourth toes.⁸

Shoes with a high heel also cause shortening of your Achilles tendon. The Achilles tendon is very strong, so when it shortens and you subsequently walk flat-footed, it can create enough force that it raises your arch and changes your walking mechanics. This can predispose you to Achilles tendonitis and other flat-footed pathology.⁹

When Nicolosi describes exercise shoes, she recommends her patients defer to the type of arch they have and purchase shoes that are geared toward a high arch or a low arch. This necessitates working with a good shoe store or running shoe store as your guide.

She commented on the popular movement of wearing minimalist shoes throughout the day, which are designed for the feet to work as they were naturally meant to. However, the lack of support may predispose the foot to other mechanical conditions, especially when the foot is not biomechanically sound when you start.

Signs You May Not Have the Right Shoes

It's good to know what to look for in the right shoe to support your feet but how do you know that you have the wrong shoes? Your feet have a strong influence over, and are strongly influenced by, your musculoskeletal system.

Nicolosi warns that wearing a shoe that doesn't provide enough support can lead to plantar fasciitis.¹⁰ This happens when the ligament that runs from the ball of the foot to the heel of the foot tightens, becomes inflamed and causes debilitating pain.

Having good alignment “from the ground up” is important to prevent pain in the ankles, knees, hip and back. You can look for other signs that you may not be walking around in the right shoes.

1. **Sore spots** — Nicolosi commented that shoe fit can result in irritation and lead to developing calluses.¹¹ Other types of irritation caused by a poorly fitted pair of shoes include blisters, which happen where the skin is rubbing against the shoe. This friction causes fluid to build up.¹²

Redness can occur over the ball of the foot, toes, and corns or hammertoes.

Redness can be a sign of poorly fitting shoes, but it also can be an indication of infection, such as athlete's foot, or reduced blood flow from tight shoes that can also lead to cramping and pain.

2. **Shoes are unevenly worn** — Shoes that are not well made will fall apart quickly and easily. On the other hand, when they show uneven wear, it may mean that your gait is unbalanced, and the shoes are unable to help correct your biomechanical challenge. With each step, the shoe begins to break down and when it's made from poor materials, it provides insufficient support. This increases the biomechanical imbalance and creates even more problems.
3. **Pain** — You may be experiencing pain in your foot from an improperly fitted shoe. However, you could also experience pain in your knee, hip and back if the shoe changes your posture or creates a musculoskeletal imbalance in those joints. One 2018 study¹³ found between 63% and 72% of people were wearing improperly fitted shoes, which was associated with pain and other foot disorders, such as toe deformities, corns and foot ulcerations.
4. **Fiddling** — Nicolosi recommends that when you are choosing a shoe and deciding between style and comfort, you should always choose comfort. If the shoe rubs in

the shoe store, it's likely going to be worse after wearing it for a couple hours.

Even when a shoe is just a little too small, it can lead to fiddling and readjusting throughout the day. A 2018 study¹⁴ evaluated the measurements of footwear on 67 women who routinely saw a podiatrist for foot problems. They found the group routinely wore shoes that were significantly narrower than their feet. Researchers concluded that emphasis on shoe width is important when assessing footwear.

What Do Your Feet Say About Your Heart or Metabolic Issues?

You can also see certain clues in your feet that indicate you may have heart or metabolic health concerns.

- 1. Ulcers that don't heal** – Uncontrolled blood glucose levels can lead to arterial damage and poorly healing foot ulcers. The University of California San Francisco department of surgery¹⁵ estimates that 15% of people with diabetes experience a diabetic foot ulcer and 6% of those will be hospitalized for an infection or other complication.
- 2. Dry flaky skin** – Many of the first signs of thyroid disease will develop in the skin, nails and hair. Early treatment can help prevent complications, such as unrelenting pain and heart problems. One sign of a thyroid condition is dry skin with deep cracks on the palms and soles of the feet that are not relieved with moisturizer.¹⁶
- 3. Bald toes** – Poor blood circulation can also cause the hair on your feet to fall out. This can occur in two associated health conditions – peripheral arterial disease and Type 2 diabetes. According to the CDC,¹⁷ roughly 6.5 million people in the US over the age of 40 have peripheral arterial disease, not all of which is due to atherosclerosis.
- 4. Small red lines** – These are also known as splinter hemorrhages.¹⁸ They look like thin, reddish brown lines of blood that run in the direction of the nail growth and are an indication of several health conditions. These include infection, such as endocarditis, meningococcal disease and disseminated histoplasmosis. Other

associated systemic diseases include systemic lupus erythematosus, Reynaud disease and cutaneous vasculitis.

- 5. Clubbing** – This can happen to the fingernails or the toenails when the nail beds appear to float instead of being firmly attached or appear to be large and bulging. It can develop quickly and recede as quickly when it's treated. Health conditions that are associated with clubbing are lung cancer, cardiovascular disease, infectious endocarditis, overactive thyroid and liver cirrhosis.¹⁹

Although for many your feet are an afterthought, it's apparent that they can tell you more about your health and wellness than you may have imagined. Consider taking a few moments at the end of the day to briefly inspect your feet and ask yourself if you see signs that you're wearing the wrong shoes or if there are indications that you may have an undiscovered health condition.

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