



**A GUIDE TO**  
**Happy Feet**

FROM THE EXPERTS AT THE ARTHRITIS FOUNDATION

# Our Feet, Our Foundation

Your whole body rests on your feet.  
Be sure you treat them well.

## **OUR FEET, WITH THEIR 52 BONES,**

66 joints and more than 200 muscles, tendons and ligaments, bear the weight of the entire body, support the skeleton and provide balance and mobility.

“Your feet determine how the mechanical forces of standing, walking and running get distributed to the knees, hips, back and spine,” explains podiatrist Robert M. Joseph, DPM, PhD, associate professor of podiatric medicine and radiology at Rosalind Franklin University in Chicago and a spokesperson for the American College of Foot and Ankle Surgeons.

As a result, if your feet or ankles are affected by arthritis or some other condition, it can create a domino effect of musculoskeletal problems. Foot pain, deformities or other conditions can cause the body to compensate in other ways, sometimes leading to biomechanical problems and pain in the knees, legs, hips and back.

And when people have foot or ankle pain, they’re less likely to be physically active, which can lead to worse arthritis pain. Active movement is necessary not only for managing arthritis pain and stiffness but also for controlling weight to prevent even more strain and pain in weight-bearing joints.

It’s important to talk to your doctor about any foot or ankle issues you might be experiencing and take ongoing measures to protect them.

“Feet change every two to five years and it’s not uncommon for feet to get bigger, wider and flatter as we age,” says podiatrist Mark Mendeszoon, DPM, a foot and ankle surgeon in Ohio. “Patients with arthritis are definitely at more risk for foot deformities progressing more rapidly, and that’s the importance of following up with their foot and ankle specialist and maintaining communication with their rheumatologist.”

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# Walk This Way

When your feet or ankles hurt, even walking can be hard. They are fundamental to *how* you walk — your gait.

Gait mechanics involve numerous muscles, connective tissues and weight-bearing joints, from the toes all the way up to the pelvis and the back. So not only do foot and ankle problems cause changes in one's gait, but an abnormal gait, from an arthritic hip, for example, may lead to foot and ankle problems.

For musculoskeletal issues, podiatrists or physical therapists may perform a gait analysis to help identify any biomechanical problems that need to be addressed, such as muscle weakness, flexibility issues or other abnormalities that may be contributing to foot or ankle problems. (Neurologists perform them to identify symptoms of certain neurological conditions.)

A gait analysis may be computerized, but it's often as simple as walking up and down a hallway or on a treadmill while the health care professional watches you from the front, back and side, sometimes taking video to help analyze your gait.

As you walk, the podiatrist "will assess how the patient's foot, ankle, leg, hip, torso, shoulders, etc. navigate a hallway or treadmill," says Alex Kor, DPM, a podiatric surgeon in Indiana and past president of American Academy of Podiatric Sports Medicine.

"For example, a patient with osteoarthritis of the knee or great toe joint will have less range of motion [that] will affect the speed, cadence and stride. At times, patients with arthritis are likely to take smaller steps, may limp or alter their gait by even straining the torso," he says.

# Show Support

A gait analysis may also help determine whether a person needs orthotics, or shoe inserts, which can ease pain and provide protection from further damage.

Premade orthotics are available over the counter in some shoe stores or other retailers. These may provide cushioning and support that helps in some cases. But people who have foot or ankle deformities or conditions that affect how they walk, stand or function might benefit from custom-made orthotics.

These are designed to modify foot and ankle positioning to help correct biomechanics. For example, arthritis pain and damage in feet or ankles can cause someone to shift how they stand and move, putting additional strain on legs, knees, back or other body parts. Orthotics can also help with conditions including flat feet, high arches, heel pain or plantar fasciitis.

Custom orthotics are specially made from a computer-generated scan of a person's foot or a foot mold, as ordered by a podiatrist or other medical foot specialist, explains Dr. Kor.

## FOOT FAILINGS

Feet and ankles get a pounding every day, and they are susceptible to injuries and to numerous conditions, including these:

**Osteoarthritis.** This degenerative joint disease can develop and progress quickly as a result of an injury or slowly over time.

**Inflammatory arthritis.** Rheumatoid, psoriatic and other autoimmune, inflammatory forms of arthritis can damage joints throughout the body, including feet and ankles.

**Gout.** The onset of this form of arthritis typically appears in a single inflamed, extremely painful joint, often the big toe.

**Tendinitis.** Inflammation of a tendon in the foot or ankle, such as the Achilles tendon, is one of the most common causes of foot pain.

**Plantar fasciitis.** Small tears and inflammation of the ligament that runs from the heel to the ball of the foot, called the plantar fascia, causes this condition.

**Diabetes.** This condition — which affects many people with arthritis — can create serious problems in the feet, including open sores, neuropathy and poor circulation.

**Bone spurs.** Pain in the feet and ankles can lead to biomechanical imbalances that can trigger additional problems, such as bone spurs and bunions.



✱ **JUST 1 EXTRA POUND  
OF WEIGHT EXERTS  
4 EXTRA POUNDS OF  
PRESSURE ON YOUR  
WEIGHT-BEARING JOINTS.**





# DIY Foot Pain Solutions

Many foot and ankle conditions require professional attention from a podiatrist or other medical foot specialist or a rheumatologist. But for common aches and pains from sore muscles or joints, try these at-home therapies.

**Have a ball.** Use a golf or tennis ball as a foot massager. Sit down, place the ball on the floor and roll it under the ball of your foot to improve range of motion and relieve pain from plantar fasciitis or arthritis.

**Warm up.** Soak your feet in lukewarm water (90 degrees or less). Add Epsom salt to further soothe sore joints and muscles, but avoid it with open wounds. Warm paraffin wax baths can also relieve sore, stiff joints.

**Put a freeze on it.** Freeze a bottle of water, place it on the floor, then rub your foot over it for an ice massage. For chronic pain, alternate ice and heat, icing up to 20 minutes and protecting skin with a cloth against frostbite.

**Rub in relief.** Analgesic creams and ointments also can relieve sore feet. Apply one when you won't be wearing shoes for a while so it can dry. Don't apply it between toes, as it could cause irritation.

**Lose weight.** Losing just one pound of excess weight eases pressure on weight-bearing joints by four pounds.





# Be Sure the Shoe Fits

As critical as feet are to our everyday lives, we often neglect and even abuse them by forcing them into footwear that doesn't fit, that sacrifices function and comfort for style, or that is simply the wrong shoe choice for our particular feet.

The wrong shoe worn by someone with arthritis in their hips, knees, ankles or feet can exacerbate existing problems and cause damage and complications to joints beyond the feet.

"Your body needs a well-built, stable foundation," says Gary W. Stewart, MD, an orthopedic foot and ankle surgeon in Atlanta and spokesperson for the American Academy of Orthopaedic Surgeons. "That means choosing and then actually wearing footwear that's right for your particular foot type and joint issues."

Wearing a shoe that's not sturdy enough to stabilize and support affected joints creates pain and interferes with gait and mobility from the ground up.

"That comfortable but problematic shoe is one that's too flexible and lacks solid construction. It can't correct or improve biomechanics and will end up increasing pain and decreasing function. If you can easily bend the shoe in the middle or at the heel or wring it out like a dishtowel, pass."

— GARY W. STEWART, MD,  
FOOT AND ANKLE  
SURGEON

"Shoe gear plays a critical role because it can change, for better or worse, how those forces are distributed," says Dr. Joseph.

People with arthritis "may have significant foot and ankle problems and deformities. Therefore, it is imperative that proper fitting shoes are selected for the individual to ensure comfort, protection and to mitigate any other foot and ankle problems," says Dr. Mendezsoon. "Generally, patients with arthritis will have digital deformities such as bunions, hammertoes, painful corns and calluses, collapsing arches, swelling in the feet and other pedal complaints."

Choosing shoes that are the right size and structure for your feet is important not only for comfort, but to help protect your feet and ankles and prevent further foot and joint damage. Read on for experts' tips on shopping for shoes that will treat your feet well.



# Be a Savvy Shoe Shopper

Shoe shopping can be confusing. “There are a lot of marketing claims, many of which are misleading, and a lot of bad advice from salespeople who lack knowledge about foot function and the design of the shoes they’re selling,” says Dr. Johnson. High price doesn’t guarantee quality. To find a shoe that fits:

## Shop in specialty shoe stores.

Staff in these stores are often more informed than those in department or discount stores and they may provide additional fitting services, like a gait assessment. Some even have a staff podiatrist. Dr. Mendeszoon recommends shopping at an independent running or walking shoe specialty store, where staff are properly trained. (He owns two of them.) “As there are hundreds of different types of shoes, a patient with arthritis should really take the extra time and be fitted properly opposed to buying it online,” he says. “Typically, the services provided by a well-established independent shoe store does not add additional cost to the shoes. Many of these establishments work closely with local podiatrists, orthopedists, chiropractors, physical therapists, rheumatologists and family doctors.”

**Know your shoe size.** Feet change size over time. Have them measured with a Brannock device — a tool with slides that measure length and width — when you’re sitting as well as standing. Ask a salesperson in a specialty shoe store to size both feet, then go with the larger size, but keep in mind that sizes vary among brands.

**Get your gait checked.** Staff in some specialty stores for walking or running shoes are also trained to perform a gait analysis, says Dr. Kor. They can determine from how you walk — whether you roll your feet inward or outward, for example — what kind of structure and support you need in a shoe, and which shoes provide them.

**Time your shopping.** Have your feet sized and try on shoes later in the day, when your feet are most swollen.



**Take your orthotics.** If you use shoe inserts, especially custom orthotics, be sure to use them while trying on shoes. Wear the socks you will wear with the shoes, too.


**Ask an expert.** Your podiatrist or other health care provider can do a gait analysis and explain which features will work best for you. Make a list and take it with you when you shop.


**Check footwear for manufacturing defects.** Put the shoes on a counter and view them from behind. The heels should be 90 degrees to the soles. Crooked or slanted heels can force the foot into abnormal, painful positions.


**Buy two pairs.** When you find the shoes that are right for your feet, buy two or more pairs of them so you can rotate them daily. “This will diminish the possibility of pain and pressure points, which can result in irritation, deformity and infection,” says Dr. Mendeszoon.

# Choosing Shoes


## DO'S AND DON'TS

 **DO** choose footwear that's comfortable the first time you walk in it. "Breaking in" shoes is a painful myth, says Dr. Joseph.

 **DON'T** focus solely on comfort. According to an Arthritis Foundation survey, comfort was the No. 1 quality people with arthritis look for in shoes. But don't stop there, says Dr. Stewart. "That comfortable but problematic shoe is one that's too flexible and lacks solid construction. It can't correct or improve biomechanics and will end up increasing pain and decreasing function," he says. "If you can easily bend the shoe in the middle or at the heel or wring it out like a dishtowel, pass."

 **DO** opt for stabilizing features. Look for shock-absorbing, slip-resistant rubber soles, underfoot cushioning, a supportive midsole (the layer between the sole and the insole) and firm heel counters (which

cup the heel). These features keep arthritic joints from moving, causing pain and strain, says Alan Bass, DPM, of Central Jersey Foot & Ankle Care. People with arthritis often have flatter feet and midfoot joint damage. "A firmer shoe stops those small joints from shimmying back and forth," says Dr. Bass. "The only place footwear should bend is in the ball of the foot, where you need flexibility for walking."

 **DON'T** cram feet into shoes that are too small. If shoes with firmer features don't feel good when trying them on, it may be because they're too small, says Dr. Stewart, who notes that aging and arthritis can alter foot size. One study of people with rheumatoid arthritis, for example, found that 59% wore the wrong size. "If you have painful foot joints or pressure points and you put on a floppy, flexible shoe that's too small, it'll give and is less likely to hurt than a more supportive but too small shoe," he says. Instead, make sure you get the stiffer shoe in the right size.

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“If you wear the wrong shoe for your foot or for your biomechanics and you already have inflamed joints, it’s like poking an angry bear.”


— AMI SHETH,  
PODIATRIC SURGEON


 **DO** look for wide, deep toe boxes and rocker soles. Roomy toe boxes prevent rubbing and constriction of painful joints or bone spurs, while rocker bottoms —soles with a boat-like curve — keep pressure off the ball of the foot. “Rockers mean you spend less time on your forefoot during the walk cycle, which is helpful for people with inflammatory arthritis or osteoarthritis that affects the little joints of the foot,” says Ami Sheth, DPM, a podiatric surgeon in Los Gatos, California. One study found that rocker soles reduced foot pain and helped people with big toe arthritis and gout walk faster.

 **DON'T** wear slip-ons or backless shoes with toe arthritis or balance problems. “Any shoe that relies on the grip of toes or feet to keep it on can cause pain,” Dr. Stewart says. Backless shoes also lack heel counters. “This makes them much less supportive and much more unstable, raising fall risks in people with balance problems or sensation loss in the feet,” Dr. Joseph says.

 **DO** look for Velcro straps and other easy closures if you have hand or finger arthritis. You can replace shoelaces with elastic laces that don’t require tying.

 **DO** choose uppers made of soft, stretchy, breathable materials. “Opt for super-soft, pliable materials that conform to feet, such as high-quality leathers and suedes and some synthetics,” says A. Holly Johnson, MD, an orthopedic surgeon and foot and ankle specialist at the Hospital for Special Surgery in New York City.

 **DO** select well-finished interior seams. Exposed stitching and seams can cause pressure points and friction, which can lead to blisters.

 **DO** favor footwear with removable insoles. If a shoe’s insole isn’t right for you or wears down, replace it with an over-the-counter insole or a custom orthosis.

# Shoe Guide

Ideally, people would take care of their feet by wearing only shoes for optimal foot and ankle health. But we all know that different occasions call for different shoes. That's OK, because if you know what to look for in a shoe that's right for you — as directed by your health care provider — you can look for those features in various shoe types. While many shoes are not designed for maintaining great foot health, some manufacturers produce good quality shoes in an assortment of styles. Here's what experts say to look for.

## Casual Shoes



For both women's and men's casual shoes, focus on function and pick footwear that's appropriate for the activity, says Dr. Sheth. "If you're walking, you need stabilizing, cushioning features," she says. "If you're standing a lot, look for supportive cushioning, a roomy toe box and a rocker bottom to take pressure off the forefoot."

## Dress Shoes



**For women:** High heels are a poor choice for feet and for biomechanics. "The higher and narrower the heel, the more pressure you put on the forefoot and toes, and the more pain you will have," says Dr. Sheth. Look for ample toe boxes and broad heels instead of stilettos or kitten heels. Wide, rubber-soled wedges with thick forefoot platforms help stiffen shoes to prevent painful joint movement, absorb joint-rattling ground contact and decrease the heel-to-toe drop so you can raise your style without exceeding the 1.5- to 2-inch heel height maximum that experts recommend.

**For men:** Look for stiffer models that bend only in the forefoot, and avoid pointy toe boxes. Dr. Joseph says it may be hard to find dressy options with rocker bottoms (which help relieve pressure on the foot and knees), but some brands offer fashionable footwear with a steel or composite shank — an inner bar that runs the length of the footbed and stabilizes the foot.

## Athletic Shoes



For both women and men, "A good pair will help absorb some of the impact of each step," says physical therapist Corey Feger. This can help protect your ankles, knees and hips. Look for a pair of sneakers with a cushioned sole and arch support. For the best fit, go to a specialty running or walking store for professional fitting and a gait analysis. For example, those with flat feet need athletic shoes with motion-control for stability, while those with high arches fare better with more cushioned sneakers. Right after purchasing sneakers, wear them around the house two or three times to ensure they're right for you before going out for a stroll.

## Boots



For both women and men, experts like the fitted ankles of boots, which stay on without any help from toes. Look for chunky or wedged heels, soft uppers and adjustable laces and buckles for a customized fit. Just make sure straps don't compress painful areas. Avoid flat-soled boots without support or cushioning. A steel or composite shank can relieve midfoot pressure and pain, says Dr. Joseph.

## Sandals



Many women's and men's sandals offer little more than a sole and thin pieces of leather to keep your foot in place. If you have arthritis in your lower extremities, look for sandals with more support. "The strappier the better," says New York City podiatric surgeon Jacqueline Sutera, DPM. "Straps let you adjust the shoe for a secure, custom fit. One of those straps must go across the back of your ankle. Without a back strap, toes 'overgrip' the edge of the shoe, and this encourages foot strain and hammertoes." Avoid sandals with straps that cut across sensitive areas of your foot, she adds.





*It's*  
**GREAT**

## *To Meet You*

We're so excited to have you in our community and can't wait to help you **Live Your Yes!**

### **Helpful Resources**

To get started on your personal journey, we hope you'll take advantage of some of the many tools and resources designed for you. Here are a few to get you started.

- ▶ Join a **Live Yes! Connect Group or the Online Community** today to make connections and get information and resources to help you manage your pain.
- ▶ Have questions? Our licensed clinical staff is available to you to provide **one-on-one personal support**.
- ▶ **A variety of tools** are accessible online to help you reduce pain, promote your independence and live your best life.
- ▶ Ready to connect locally? Check out programs and **events in your area**.

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