

A Game Changer for Podiatry

Artificial intelligence (AI) is already revolutionizing many aspects of daily life. It's emerging as a powerful ally in podiatry as well. Here are some examples of its current/future benefits:

Diagnostic assistance. AI, with its advanced image recognition capabilities, offers improved analysis of x-rays, MRIs, and other imaging — and can do it more swiftly and efficiently. Conditions such as fractures, deformities, and soft-tissue injuries can be identified and addressed earlier, potentially averting serious complications later on.

Data processing. AI can also rapidly process vast amounts of data such as patient history, current conditions, and treatment outcomes, resulting in more highly personalized and effective treatment plans.

AI-assisted foot care. Smart shoes with sensors can track a patient's gait (walking pattern) remotely, identifying abnormalities that zero in on specific conditions. AI-powered apps can assist patients in handling chronic foot conditions by providing real-time feedback on their gait; recommending exercises to improve their foot health; and monitoring foot temperature, foot pressure distribution, and wound healing of foot ulcers to alert both the patient and their doctor of any anomalies.

Robotic-assisted surgeries. Robotic surgery allows podiatrists to perform complex foot and ankle surgeries with improved precision, minimal invasiveness, and faster recovery times. AI is contributing here as well, with one example being AI adjusting camera angles and tracking instruments during an arthroscopy.

Custom orthotics. Three-dimensional scanning of feet combined with AI analysis equals unmatched customization. That means a much higher degree of precision, quicker and more efficient creation, and added comfort, durability, and longevity.

Personal, human-to-human care and interaction will always be central to our practice. AI is a developing tool to help us improve our capabilities and enhance patient health.

About the Doctor

Eric S. Harmelin, DPM



Dr. Harmelin grew up in South Florida. He received his Bachelor of Science degree from the University of Florida. He then went on to earn his

Doctor of Podiatric Medicine from the Barry University School of Podiatric Medicine in Miami. He completed a three-year surgical residency at South Miami Hospital/Baptist Health Systems in South Miami, Florida, and began private practice in 2000 in Fort Lauderdale. Dr. Harmelin joined the team at Annapolis Foot and Ankle Center in 2010.

Dr. Harmelin is a licensed podiatric surgeon in Maryland and is board-certified by The American

Board of Foot and Ankle Surgery. He is also affiliated with the Maryland Podiatric Medical Association and the American Podiatric Medical Association. He is the chief of Podiatric Surgery at Anne Arundel Medical Center. Dr. Harmelin has a special interest in wound care/limb salvage and reconstructive surgery.

In his spare time, he enjoys playing tennis and spending time with his family.



Easing Into Spring

With the advent of spring and warmer temperatures, outdoor activity surges, lighter footwear emerges, and stress on feet and ankles increases — especially for those who pulled back on physical activity over a chilly winter.

Walking, running, gardening, playing sports, and spring cleaning are some of the activities that, though beneficial overall, can elevate the pressure on arches, heels, joints, and muscles of the feet and ankles if one tries starting at prewinter levels. Gradually increase physical activity and wear supportive shoes to nip plantar fasciitis, Achilles tendonitis, foot fatigue, and shin splints in the bud.

Supportive winter footwear sometimes gives way to unsupportive spring varieties, such as flats, sandals, and lighter footwear in general. Aim for footwear that is both comfortable and supportive, and don't go all out the first time you wear it.

Friction, moisture, and poor support are an unholy alliance, leading to blisters, chafing, and skin irritation. Rising temperatures lead to more sweating, opening the door to athlete's foot and toenail fungus. Keep feet dry, carry an extra pair of moisture-wicking socks with you when active away from home, rotate shoes from day to day, and avoid walking barefoot around pool decks.

Spring allergens can prompt swelling in the feet and ankles, making footwear tighter, less comfortable, and prone to friction. Stay hydrated, decrease sodium intake, and elevate your feet periodically. Gaining even just a few pounds over the winter can change the arches and affect pressure distribution, resulting in discomfort — especially for those with flat feet or high arches.

To properly enjoy spring, don't ignore persistent foot or ankle discomfort — it will likely just get worse. Schedule an appointment with our office instead.

Mark Your Calendars

- Mar. 3** Peach Blossom Day: Delaware was the original "Peach State," with over 4 million peach trees at one point. A disease changed all that in the late 19th century.
- Mar. 8** Daylight Saving Time begins: Exposure to natural sunlight closer to bedtime can make it harder to fall asleep.
- Mar. 13** Friday the 13th: According to *National Geographic*, more than 80% of high-rise buildings skip the 13th floor.
- Mar. 17** St. Patrick's Day: Saint Patrick was never officially canonized as a saint.
- Mar. 20** First day of spring: Surfable river waves pop up during the spring and autumn equinoxes; for instance, the Severn Bore near Gloucestershire, England.
- Mar. 26** Live Long and Prosper Day: DeForest Kelley (Dr. McCoy) was the first choice to play Mr. Spock on *Star Trek*, not Leonard Nimoy; Adam West (*Batman*) was second.





March: A Great Month for Fresh Produce!

March offers a slew of seasonal debuts of fruits and vegetables ... and bright, tender shoots, leaves, and stems. Spring's vibrancy can't be matched! Try the following on for size (if you haven't already).

Mangoes. There are many varieties of mangoes, but the peak seasons for Ataulfo, Kent, and Tommy Atkins mangoes are in March. Most U.S. mangoes come from Mexico, Ecuador, Peru, Guatemala, and Brazil, and their cousins are pistachios and cashews. Both "mangoes" and "mangos" are acceptable spellings — gotta love English!

Yu choy. Also known as Chinese flowering cabbage, yu choy is loaded with antioxidants as well as compounds linked to anti-inflammatory properties. Slice it up to add to stir-fries, or toss it in with soups during the late stages of simmering. Blanching before storing can extend its shelf life.

Fava beans. Don't let *Silence of the Lambs'* Hannibal Lecter scare you away from fava beans (also "broad beans") — seems he enjoyed them with liver and a nice chianti. Fava beans are a great source of fiber, iron, and potassium, and possess a nutty, earthy flavor profile. The Alberta and Saskatchewan provinces in Canada are North America's top producers.

Papayas. A dose of sunshine in plant form. Papayas' delicious, unique flavor can stand alone but can also be added to smoothies or oats and yogurt with great aplomb. Sweet, ripe ones will be mostly yellow with some splotches of green and slightly soft (but not mushy) to the touch.

Seasonal produce is frequently less expensive during its harvest season. Locally and regionally grown produce is tastier and retains more of its nutrients since it doesn't have to be shipped great distances. Local farmers' markets will appreciate your patronage, and you can pick their brains about prepping and cooking ideas.



St. Paddy's Broccoli Pasta

Servings: 4; prep time: 5 min.; cook time: 15 min.; total time: 20 min.

Ingredients

- 1 pound broccoli fresh or frozen (cut into small florets) + 1 gallon water and 1 tablespoon of sea salt to boil them
- 12 ounces short pasta conchiglie, orecchiette, rotini, or another type
- 3 tablespoons extra virgin olive oil
- 2 cloves garlic pressed, grated, or thinly sliced
- ¼ teaspoon red pepper flakes or thinly sliced red chili (add more or less to taste)
- ½ cup grated parmesan cheese + shaved parmesan for garnishing
- 1 handful basil leaves

Directions

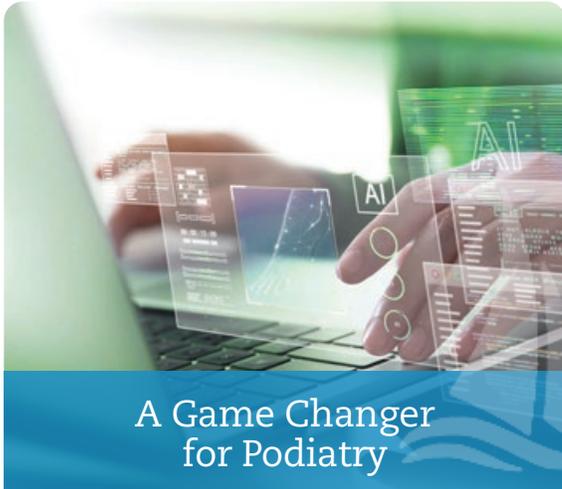
1. Boil small broccoli florets (add 1 tablespoon sea salt) for 5 minutes or until fork tender.
2. Heat 3 tablespoons extra virgin olive oil in a large skillet.
3. Then add 2 cloves garlic (thinly sliced) and ¼ teaspoon red pepper flakes; sauté for 1 minute.
4. Remove broccoli from the water and add it to the skillet (save the water to cook the pasta).
5. Add *one cup cooking water* and simmer on medium heat for 10 minutes or until very tender.
6. Mash the broccoli with a fork or blend with an immersion blender.
7. While the broccoli simmers, cook 12 ounces short pasta as per package instructions minus 2 minutes.
8. Use the same water you used for cooking the broccoli.
9. Drain the pasta (reserve one cup of cooking water) and add it to the sauce.
10. Add ½ cup grated parmesan cheese and finish cooking for about a minute.
11. Add some *reserved pasta water* if necessary to make the dish creamy.
12. Taste and adjust for salt.
13. Serve with 1 handful basil leaves and *shaved parmesan* on top.

Recipe courtesy of <https://theplantbasedschool.com>.



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‘The Captain of the Toes!’

The big toe plays a humongous role in weight-bearing, forward propulsion, balance, coordination, and efficiency in movement. It's a critical intelligence-gathering outpost for the brain, enabling the brain to make rapid-fire adjustments while we're standing or on the move.

In fact, the brain has unique real estate reserved for the big toe. The other four toes essentially get lumped together in their own separate brain area, showing that, while all the toes are important, the big toe plays the starring role in locomotion and proprioception (ability to sense one's own position and movements in space).

The big toe also houses an intricate network of muscles, tendons, and ligaments, along with the metatarsophalangeal joint at its base. When something goes awry, there's a lot on the line — and not just for the big toe. The body is a dynamic, interconnected web of joints and muscles. When there's distress in one area, the brain compensates, but in so doing, the next link in the "kinetic chain" is under the gun. The big toes are the first points of contact with the ground; their good health and proper function are pivotal to keeping the rest of the body happy.

For instance, big toe issues can snowball into plantar fasciitis, ankle instability, and calf and shin pain. Knee, hip, and lower back ailments might be next. A dysfunctional big toe sometimes leads to impaired circulation or affects balance, raising vulnerability to falls. Athletes who ignore big toe pain will suffer decreased speed and agility, and a heightened risk of further injury.

Persistent foot and ankle discomfort is never normal. A comprehensive podiatric evaluation at our office can get you back on track.

