

Dyane Tower:

Welcome to the Peripheral Artery Disease Podcast, titled Exercise and Foot Care in PAD. This is the fourth podcast in a series of podcasts from the American Heart Association, PAD Initiative. This is part of the PAD National Action Plan. My name is Dr. Dyane Tower, and I'm a podiatrist and the senior medical director and director of Clinical Affairs at the American Podiatric Medical Association. I'm so glad you've joined us for this podcast today. There have been three other episodes so far in this series, and we're excited to share more with you about exercise and foot care as we hope to improve the care of patients with PAD. I'd like for our guest to introduce themselves, Dr. Mary McDermott.

Mary McDermott:

Hi, I'm Dr. Mary McDermott. I am a general internist and I am professor of Medicine at Northwestern University's Feinberg School of Medicine. I am a physician scientist and my research focuses on clinical trials studying interventions to improve walking performance in peripheral artery disease.

Dyane Tower:

Mary, thank you for joining us today. And next we have Dr. John Evans.

Dr. John Evans:

Thank you, Dyane. My name is John Evans. I'm a podiatrist practicing in Michigan for over 35 years now. I'm the chief of podiatry at Beaumont Hospital in Dearborn, Michigan, and I've been active in the podiatric profession for a long time. Thank you for allowing me to join you today.

Dyane Tower:

Thanks for joining us, Dr. Evans. And we are fortunate enough to have patient representative Jim with us today. Jim, could you share a brief introduction?

Jim Sasson:

Sure. My name's Jim Sasson. I reside in Auburn Hills, Michigan. I work for an automotive supplier and I'm director of project management.

Dyane Tower:

Wonderful. Thank you for joining us today, Jim. Now to get started with our episode today, I'm just going to do a brief reminder of some of the things about PAD that we've heard from prior episodes of the podcast, in that peripheral artery disease or PAD is one of the major manifestations of atherosclerotic cardiovascular disease. It increases in prevalence as we age and also with other chronic conditions like diabetes and kidney disease. Presentations of PAD can be diverse and include difficulty and/or pain with walking, atypical symptoms, and some patients may even present with more dramatic rest, pain or tissue loss. With our guest today, I'd like to start by asking John about the classic signs and symptoms and some risk factors that you look for as a podiatrist.

Dr. John Evans:

Well, Dyane, there's a number of them that we're looking at. We're looking at peripheral arterial disease, we're talking about a reduced blood flow into the legs and the feet. Now, as podiatrists, we are going to be checking out the feet and legs of our patients almost on every visit.

So there are certain things that I look for when I'm going through to see if someone might fall into the category of having this vascular concern. The first thing I do is look at their medical history and their medications, because quite often we're going to see that they have some of the risk factors that we often see with peripheral arterial disease, such as coronary artery disease, cerebral vascular disease, hypertension. Maybe they've had a previous TIA or a stroke. They may be on medications or cholesterol. They may have some degree of renal insufficiency. So by looking at their medical history and their medications, it gives me an idea what to be aware of, because unfortunately, PAD is not as easily diagnosed as we would think it would be.

Classically, we see signs of poor blood flow. So this would be a cold limb or foot, a discolored foot, a cold foot, tingling or numbness or strange sensations, weakness or even paralysis in the leg in some situations. But since a lot of these symptoms cover a number of different diagnoses, it's often difficult to tell exactly what's going on.

Again, classically, people with peripheral arterial disease will have pain within the muscles of the leg, and this would worsen with exertion. We call this claudication. And if it only happens when you're exercising or undergoing some intense activity, we call it intermittent claudication. That's one of the standard signs of PAD. The problem is if you depend on claudication, you may miss the diagnosis of PAD up to 90% of the time. So the other classic sign would be of wounds to the foot or leg that don't heal or heal very slowly. But again, usually by the time you get to these levels, the PAD is quite advanced. So ideally, we'd like to pick it up earlier in its development.

So we look at the changes in the skin or the nails. The digital hair or hair in the leg, is it reduced? Does the skin look healthy? Does the coloration look right? Anything like this, is it pale or is it blue when you look at the leg or the foot? These type of things. Now, we check pulses. There are two major pulses that go into the foot, and we will check these on every visit and also following the different arteries up the leg if we're concerned about flow into the foot.

So these are things we typically check for on a regular exam, but they don't really say what's going on. So we look at some functional changes. We ask them how are their activities doing. "Has your walking distance reduced? How many blocks can you walk? Or how many flights of stairs can you climb without having types of pain? Do you have to stop and rest before continue on these type of activities?" I'll watch the person stand up from a sitting position and if it's slower than I remember it being or that it probably should be, this can be a sign. Or you can ask them about their activity level. Has it gotten less than previous? Have they stopped taking walks or bowling? Oftentimes the patient won't say there's been any changes, but by questioning their family or friends, you realize that there is a problem there. So these are the basic things that we look for when someone comes into our office.

Dyane Tower:

John, thank you for sharing your perspectives on common signs and symptoms. And now I'd like to ask our patient representative, Jim. Jim, how does what John described match up or not with your experience?

Jim Sasson:

I think it's very similar to my experience. My experience, I was not really identifying it as a disease at the time. I would be walking through a customer's facility and my left calf would start bothering me approximately 25 years ago this was. But then I could walk through it and then it was okay in my left leg, and I thought, "Okay, I'm dehydrated" was my mindset. And so I would drink more water, drink more water, but it would still stick around.

I finally had it addressed. I had all kinds of tests done, and it was identified that I had undersized arteries in my leg, both my legs. I was able to walk through it still. So I really didn't look into it like I should have, I'll say. When I finally did, I looked up online actually and I saw this gentleman doctor that was identified in St. Clair Shores and I could go to his office and actually get it done because he had a sterile environment. So I visited him and he says, "Yeah, I'm pretty sure I can clear this 98%. I can't tell you 100%." I asked him what hospital we would do it at, and he says, "No, we can do it right here in my office. I have a sterile environment in the back." So it made it much easier for me. I know nobody really likes going to hospitals, and I'm one of those people, so I didn't feel like it was going to take long at all.

I walked in there at 7:00 in the morning. I walked out at 11:00 in the morning and it was completed and it was just a great experience. I was a smoker at the time. He told me I had to quit smoking. And I just didn't understand why I wasn't getting blockage up top in my chest and my arteries look good still in my chest, but just in my legs, or in my left leg specifically. So I didn't quit smoking it the first time. He had to do it again and he warned me again. And then I quit smoking and it hasn't come back and it's been just excellent. I mean, I can run again, I can walk again, I could ride bikes again. I was very limited before getting it cleared out, I'll say. It got to a point where I could only walk half a block without having to stop. The pain was that bad in my calf, my left calf. So I think Dr. Evans was right on when we was talking about all the symptoms and so forth. But yes, that was my story.

Dyane Tower:

That's great, Jim. Thank you for sharing that personal story of yours. Now, Mary, can you share some thoughts from your perspective as a physician scientist? Can you share what your thoughts are on these symptoms?

Mary McDermott:

Sure. I would emphasize how often peripheral artery disease is not diagnosed, it goes unrecognized, and also how often people present with a typical symptoms and may get diagnosed as having knee arthritis or hip arthritis when actually their symptoms are related to peripheral artery disease. So my recommendation would be for any people who are over the age of 50 and have even one cardiovascular risk factor, but particularly a history of smoking and particularly a history of diabetes, if there's difficulty walking, no matter the symptoms, I think it would be wise to get an ankle-brachial index, a noninvasive test for peripheral artery disease.

I've seen many patients who were told that their hip pain is from hip arthritis, even knee pain was knee arthritis, when in fact what they called their knee was actually what I would've called their calf and they actually had peripheral artery disease. So it's commonly missed as a diagnosis and commonly misdiagnosed as another etiology.

Dyane Tower:

Mary, those are such great points and reminders for us all to really look at the clinical picture and understand exactly where the pain may be coming from from our patients.

Mary McDermott:

Well, I was just going to add one more thing, and that is many patients won't even complain of leg symptoms, and that may be because they've so limited their activity in order to not get the symptoms that they won't report them. So asking what their physical activity is, as John was mentioning earlier, I think is really very important. And we see all types of symptoms. It can be pain, it can be tightness, it can

be a cramp, it can be burning, even numbness or tingling. So in my mind, no type of symptom would exclude the diagnosis.

Dyane Tower:

That's great, Mary. Thank you for sharing. Now, John, if we're talking about all of these symptoms or patients who may come to a podiatrist and you are doing your physical exam or speaking with a patient and maybe in your mind understanding what some of the risk factors that this patient in front of you may have, can you share about why podiatry is an important part of the team that may be caring for patients with PAD?

Dr. John Evans:

Certainly, Dyane. And I'm surprised how often I will have healthcare professionals pull me aside at meetings and say, "You know, I never really understood why when you look at PAD studies and clinical trials and such, you've got your vascular specialists, your interventionist, your vascular physicians, and then they talk about podiatry too. I don't know why podiatry seems to show up in all these different circles." And it's an understandable question when you look at... We're quite different in what we treat. But the foot is extremely vulnerable because we walk upright and we take between 5,000 and 10,000 steps a day. Every step we take, one and a half times our weight can go through each foot. So it's tremendous amount of force that goes through this. On top of that, a quarter of the bones in your body are in your feet, and between every two bones is a joint.

So the engineering complex of the foot is extremely complex. So you're putting all this pressure on the feet moving around, tremendous force going through it. Now, on top of that, a lot of our patients have decreased sensation to their feet. They can't feel what we would consider normal pain. We call it neuropathy. But in diabetics or people who have drank too much alcohol throughout their life, and there's a number of other conditions that lead to neuropathy, they lose the ability to feel normal pain so they can't tell if something's going wrong.

So you've got those two situations going on. You add to it that there's not enough blood getting down to the foot to actually heal any types of damages that are done by these other problems. So this combination, this triad of poor circulation, poor sensation, and then an abnormal biomechanics can lead to disaster because wounds can develop that can't heal. And the wound can be the entrance to the amputation cascade.

So podiatry is involved primarily because that's what we do. We deal with the foot and the leg. With our patients, someone who has PAD, we can be involved with them at a number of different times along their course of the disease. If it's asymptomatic or atypical or haven't been diagnosed, we're the ones we're watching for it and potentially could put them into the diagnostic queue. So they have the simple tests done such as the ankle-brachial index that Mary pointed out, which is inexpensive, it can be done in the office. It doesn't require a lot of intensive training to learn, but it's a very good marker to tell if something is not right. So certainly it makes sense to do it because it can be done so simply and easily in almost any specialist's office.

If we diagnose PAD and they're more on the critical stage where they've got gangrenous changes or wounds that won't heal, what we call ulcerations, we can be involved with helping these heal appropriately with wound care or special dressings, finding ways to reduce pressure to the areas that are breaking down through shoe gear or insert type therapy that we're trained to do.

But then long term, if the patient has PAD and yet they're not in a critical stage at this time, we're the ones who can monitor it because we're going to be seeing the patient a few times a year and we're looking for problems so we can get back to the vascular team and say if something's wrong, plus we can

attempt to educate or reeducate the patient and their family that if you've been diagnosed with PAD, it doesn't go away. Even if you've had an intervention in some manner, the PAD is not fixed permanently.

The good news on successful interventions are, one, you're alive, and two, hopefully you've got a leg. But other than that, we just have to watch it for the rest of their lives, and it's important for them to understand that so things aren't lost and disasters don't happen down the road.

Dyane Tower:

Thank you, John, for that advice and ways that podiatrists can be part of this team. Now, Mary, I'd like to ask you a question about exercise therapy and if you could share some of your expertise and thoughts on exercise in patients with PAD.

Mary McDermott:

Yes, I'd be happy to. Walking exercise is first line medical therapy for patients with peripheral artery disease. Traditionally, supervised exercise has been the first line therapy for peripheral artery disease. And for PAD patients, supervised exercise would consist of going to a medical center like a cardiac rehab for example and walking usually on a treadmill three days a week in the presence of a nurse or exercise physiologist.

Since approximately 2017, CMS or Medicare has covered this supervised exercise for patients with PAD. I think it's very important for physicians to be aware of this. The order for supervised exercise that is covered by Medicare must be prescribed in an office setting. So the patient needs to make an appointment and the prescription and what Medicare will pay for is a 12-week program consisting of three times weekly of exercise at the medical center or a healthcare center. At the end of the 12 weeks, if the patient still has symptoms, a second order can be written.

So now this has been available for about five years. However, we know that most people with peripheral artery disease don't participate in supervised exercise. It's similar to cardiac rehab where a lot of people eligible for cardiac rehab don't take part, and this is often because it's burdensome or they may not be a facility nearby that offers PAD rehab. And so I think it's really important for clinicians to know that there's good evidence for home-based exercise to help many people with peripheral artery disease. But the most effective programs usually require monitoring or a coach, someone staying in touch with the patient to encourage them to monitor what they're doing and give them advice. If you just tell a patient with PAD to go home and walk for exercise, that often doesn't improve their walking.

And another point, we published a study a little more than a year ago where we demonstrated in a randomized clinical trial of 305 people with peripheral artery disease that in order to get benefit from home-based exercise, it's important to walk for exercise at a pace that induces ischemic leg symptoms. And if a patient's able to do that, they can improve their six minute walk distance, for example, by over 50 meters compared to a control group. But we also found that walking at a comfortable pace without those ischemic symptoms was actually not better than a control group.

So I recommend walking exercise if supervised is available. CMS does cover it now, but if that's not an option, home-based exercise with the appropriate support can be highly beneficial.

Dyane Tower:

That's great information for our listeners to hear and know about those services, Mary. While we're talking about exercise and patients improving or hopefully improving, as time goes on from patients either being diagnosed or having some sort of intervention and then going on to either short or long-term monitoring of their condition, can you talk any about how you would recommend monitoring PAD

in the short or long-term, whether that's through exercise, either speed or distance, or any other testing that you would like to see it for these patients?

Mary McDermott:

Typically, we do not routinely monitor with the test such as the ankle-brachial index. Now, the exception to that is if a patient has had revascularization, the interventionalist typically has a protocol that's recommended initially every three months or so of follow up testing. But if someone's not had that procedure, we really base any interventions on their symptoms. And so I think it's really important for the clinician to ask about their PAD symptoms, but also to ask about their activity level because it's not uncommon for a patient to report that their symptoms are unchanged, when in fact they've significantly curtailed their walking activity to avoid those leg symptoms. So I personally would focus on the symptoms and their physical activity.

Dyane Tower:

Excellent. Now John, I like to ask from your perspective a similar question about monitoring patients with PAD in both the short and long term from your perspective as a podiatrist.

Dr. John Evans:

Well, again, as Mary pointed out, if we have a diagnosis of PAD and they're under some sort of treatment protocol, the use of the ankle-brachial index may not be as useful as it was initially. It's a good screening tool, but it's not very specific as to whether there's a reduction in flow to a certain area of the leg or into the foot.

So for myself and my colleagues, we are checking pulses at every visit. We're looking at the appearance of the foot. We're talking to them about their activity levels. We're looking for any signs of skin breakdown such like that to follow it. One of the benefits of my profession is since you are seeing the person more than when they're in a critical stage, you can help monitor and develop feedback to the vascular team. I don't know how many times a week I'm calling a vascular specialists and filling them in on their patients as to how well they're doing or if there is a new problem coming up.

So we found, and the research has pointed out, that PAD is most effectively addressed if we use a multi-specialty approach where we have different specialists who are dealing with the patients, working together to help this. We've found we've been able to reduce amputations this way. And this isn't always how the medical system is set up, but we know they need their vascular team, their interventionalist, their cardiologists, vascular medicine people, all of those. They need to make sure the blood flow has been improved or sustained to the leg and the foot. We need internal medicine involved in the patient's overall health because the greatest risk factors, as Mary pointed out, really are diabetes and smoking. But we also know that the older person gets, the risk goes up. Hypertension, any of the other cardiovascular diseases, either reduced flow to the heart or the brain increase the risk of PAD. The arteries, you might think the arteries in your body are all the same, but there's actually some differences in the arteries in the legs versus that around the heart or into the brain. And so we need specialists who are watching for this.

So since we know diabetes is so prominent, we need our endocrinologists involved with this. If wounds are present, we need our wound care specialists. Nursing is important throughout the entire patient's cycle of any type of care that they needed. Nutrition is important. Mary has pointed out how important exercise is. And really after control of these medical conditions and stopping smoking, that's the one thing we found that that works pretty much in every case when we're possibly able to use it. So we also know cholesterol levels. These lipids have a factor of increasing the risk of this. So we need physicians

who are watching all of this working together and talking to each other. As I say, the best results have come when there are teams looking at the patient. And different specialists have different importance at different times of the cycle of these type of processes. So hopefully by working together, we can get the best results.

Dyane Tower:

Those are great words to work by, John. Thank you. And now Jim, I'd like to ask you to share your exercise experience and what monitoring you have undergone after some of your treatments.

Jim Sasson:

So I tried to walk at least 10,000 steps a day currently, which is approximately five miles. I try to make that every day. And the little things that you can do. I can't remember. I haven't taken an elevator in probably two months. I take the stairs instead. Just the little things like this helps immensely, I feel. And it's so critical to me because... And I wasn't aware of Dr. Evans and Ms. Mary and all this other information. It's been very educational for me. Although I donated a kidney in 2002 because my father had diabetes, right? So I donated a kidney to him. And then I was diagnosed when Dr. Evans brought it up with Morton's neuroma in the same foot as well, on my left foot.

So I was a little confused on the cramping and the blockage and the pain in the calf and I wasn't sure where it was coming from. But yeah, the exercise routine to me is walk, walk, walk. And now I'm able to even jog again. I ride bikes again. I go up north to my place. It's just fun now. I feel like I'm 20 years younger again. And it's just the little things you can do. Like I said, don't take the elevator if you don't have to. Take the stairs. And again, I should probably be walking more. I drive a lot less. I go for walks when I get home, but I monitor. I have a step counter that's always with me. So my minimum step count per day is 10,000, which is approximately five miles, which I feel I could not even walk I would say 500 steps without stopping before. So it's just been a great experience.

Once finding out all these other symptoms that I had, including donating the kidney, put me at a higher risk with diabetes and everything else. I watch my diet. I try to keep my sodium down as well. The little things that you can do has made my life so much better and made me feel so much better currently [inaudible 00:29:27] my lifestyle. So not so much fast foods anymore. Not so many sweets or pops. I don't drink pop anymore. Things like that have been, I think, a big help to myself.

Dyane Tower:

That's great, Jim. Thank you. Well, thank you to our guests. You all have provided such great information today on symptoms, exercise, the importance of communication not only among the healthcare team but also with patients and their families or caregivers. So I want to thank you all. And Jim, those were some really great small points of advice for the patients who may be listening out there. So thank you, Mary, John, and Jim.

And thank you all for participating in this podcast with us today. We heard a lot of great and important points about peripheral artery disease. This podcast is a part of the American Heart Association, PAD Initiative, sponsored by Janssen Scientific Affairs, LLC, and Novo Nordisk Inc.

And in closing, I'd like to remind everyone listening to encourage your patients to play an active role in their medical care by advocating for themselves and their family members. Specifically, patients should ask questions about leg symptoms that interfere with walking or activities, or ask about getting help with exercise for example.

To get additional information, please visit AHA's PAD website for more education. The views and opinions in this podcast are those of the speakers and reflect the synthesis of science. Content should not be considered as the official policy of the AHA. Thank you.