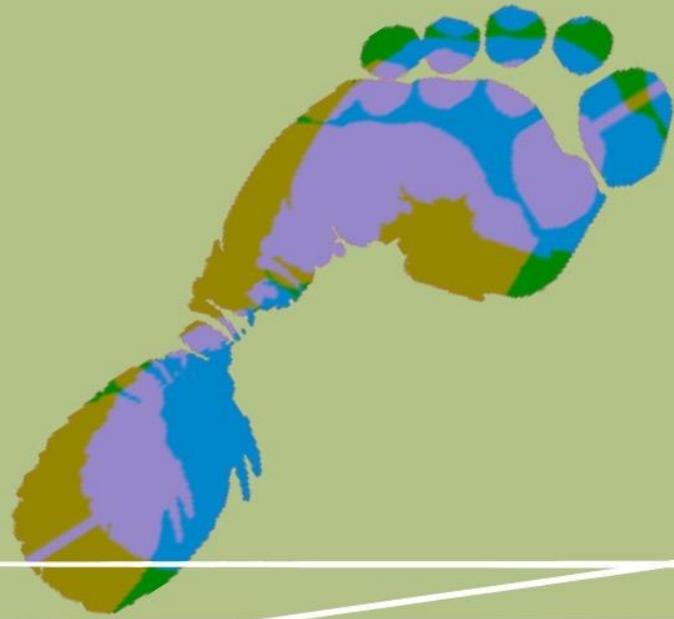


#351 Live! Foot and Ankle Pain with Dr. Joan Ritter

FOOT AND ANKLE PAIN

W/ DR. JOAN RITTER



**THE CURB
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[Disclaimer]

[The Curbsiders Podcast theme]

Matt: Welcome back to The Curbsiders. I'm Dr. Matthew Watto, here with my great friend, Dr. Paul Nelson Williams. And Paul, I wanted to see how are you doing? Let's check in.

Paul: No, it's great. This feels natural, I'm good. Thank you for asking. [Matt laughs]. How's your day going?

Matt: My day is going well. And of course, today, we're going to be talking about foot and ankle pain. I imagine there may be some puns that come up, Paul, which I'm excited about. Can you tell the audience what is it that we do on the show?

Paul: Sure. Happy to as always, Matt. We are as a reminder, *the* internal medicine podcast. We use expert interviews to bring your clinical pearls and practice-changing knowledge. And today, we will have the good fortune of talking to Dr. Joan Ritter about foot and ankle stuff, which is something I think, at least every internist I know is slightly terrified of, we'll get into it.

Dr. Ritter, I will tell you about her, is an enthusiastic but overcommitted general internist [laughs], who enjoys seeing patients, staffing world-class residents and discussing interesting cases with her terrific colleagues at Walter Reed National Military Medical Center in Bethesda. One of her favorite jobs is as a volunteer position at the Arlington Free Clinic. She is delighted but a little intimidated to be invited to be a guest on the Curbsiders.

Matt: I feel shame right now for what I'm about to do Dr. Ritter, [Ritter laughs] but please bear with us. Paul, it's a problem with the foot puns. They're all very corny, Paul.

[laughs]

Matt: But I'm going to march forward. And I'm--

Paul: These are all written down, by the way, just for [Matt laughs] [crosstalk]

Matt: Seriously.

Paul: You guys know [crosstalk]

[laughs]

Matt: Paul, don't break [unintelligible 00:02:02] to the people at home. Anyway, I'm feeling good about this, Paul. And, Paul, I wanted to tell you, I've never talked about this before, but there was a time, Paul, I once had a torrid love affair with a podiatrist, but it didn't work out. Because, Paul, we just weren't solemates.

[crowd laughs]

Matt: Also, don't tell my wife about the podiatrist.

Paul: Sure, sure.

Matt: Okay. Anyway, with that, thank you, Dr. Ritter, for not running away [chuckles] But let's start off by getting to know you. Can you tell the audience-- give them a one-liner-- they've already heard your bio,

but give them a one-liner. Tell them a little bit about yourself, and a hobby or interests outside of medicine.

Dr. Ritter: I am a clinician, educator, administrator here. And I am a wife and a mother of three children. And actually, I like running. So, this is [crosstalk].

Matt: All right. So, this is a very pertinent topic that we're going to get into tonight and I love that you included in overcommitted general internist, which I might have to throw that into mine. I think most general internists would throw that in.

Paul: It's redundant at this point, yeah.

Matt: [laughs] Paul?

Paul: Sure. I always like to ask, and this is the question that panics our guests, usually the most, but any book recommendation, movie recommendation, any piece of culture that you've enjoyed recently?

Dr. Ritter: Recently, I am making my way through *100 Poems* by Seamus Heaney after taking an online course about him. he's a Nobel Laureate, and a really neat guy.

Paul: Relatively recent one too, if I remember right.

Dr. Ritter: 1995, yeah [chuckles].

Paul: Or maybe I'm old. Yeah, that's also possible.

Dr. Ritter: [unintelligible 00:03:38] [laughs]

Matt: Little-known fact for the people in the house so we could cut this out for the main podcast if it's going to embarrass Paul, but little-known fact, Paul's mother is a poet laureate and-- [crosstalk]

Paul: [crosstalk] Pennsylvania, sure.

Matt: I think that may be why Paul is so eloquent in his speech.

Dr. Ritter: Oh, wow.

Matt: Because being raised around a poet laureate, you can imagine. And I am yet to meet her, which, despite my request that I would really like to meet your mom, Paul. I really [crosstalk]

[laughter]

Paul: That's fully intentional [crosstalk]

Matt: I guess we're not great friends, Paul. Did I say-- I meant to-- I amend my-- this is my good friend, Paul Williams.

Paul: Paul Williams.

Matt: Not my great friend. You've been demoted again, Paul. The other question I wanted to ask just for the audience, and for Paul and I as well is, I always like to just get maybe advice or feedback that you have gotten along the way that you found helpful, could be early in the career or it could be later in your career.

Dr. Ritter: I think early in my career, one of my mentors told me something that I actually continue to use every day and it is whatever anger, irritation, frustration you feel with your patients, try to remember that they're probably doing the very best they can on that day, when they're seeing you. And it actually applies to other people in your life as well. So, it's been very useful for me to not get upset or internalize things.

Matt: I think that's great advice. Paul, anything else you wanted to ask before we get on to the cases?

Paul: No. I think we should get on to the case. Do we want to do Picks of the Week? It's entirely up to you.

Matt: Oh, yeah, let's do some Picks of the Week. I think we could do some Picks of the Week. So, this is where we just tell the audience about some really cool stuff that Paul and I have been enjoying lately.

Paul: Sure.

Matt: Paul, tell me have you seen any good movies lately?

Paul: Great question. Thank you for asking. [Matt laughs] I think the last time I was here, I recommended *John Wick 3* to you all and then I felt really self-conscious about that. This one--

[laughter]

Paul: It may be better, I'm not-- actually, content warning. This might not be for everyone. But I just saw the movie this week, *Everything Everywhere All at Once*. It is currently in theatrical release. It is by, I believe, a couple of guys that call themselves the Daniels. It stars Michelle Yeoh. And basically, it's this woman who finds out that she is the most important person in the entire multiverse, and only she can sort of stop its impending destruction. And she's the most important person in part because she's made every wrong decision in her life up until that point.

And it combines sci-fi and existentialism, and there's martial arts and absurdist. It's visually spectacular, but I also found myself like crying and then laughing and then sort of stunned at the end and actually watched the credits all the way through, which I never do. So, just a really remarkable movie. I've not seen anything like it. So, if you get the chance, *Everything Everywhere All at Once*, spectacular.

Matt: You gave me like five minutes' notice before you were going to see it. We were supposed to see it together. [Paul laughs] I will see it. It seems like it's going to be good.

Paul: Didn't think it had to be included here but yes, that's fine.

Matt: I feel like on this episode, I want to let the audience-- [crosstalk]

Paul: What was this about, yeah.

Matt: --On our personal relationship, Paul. Yeah, this is a very intimate recording here. I would recommend-- I'm actually watching a show. We've been traveling a bunch lately, and apparently all the hotels now have Showtime. And there's a show called *Black Monday*, what I like-- my criteria, I can't watch anything that's too big of a commitment. And this is like 3 seasons 10 episodes per season and they're 30 minutes. It's a comedy about this Wall Street firm of kind of underdogs in the 1980s. The first season is before the major market crash happened, and it's a fictionalized version of why the market crash happened. But it has Don Cheadle and Regina Hall are the leads, and they are hilarious. So, I would highly recommend that. If any of you happen to be staying in a hotel that has Showtime [laughs] or if you have it at home. But, Paul, now let's get on to a case from Kashlak, and I'll let you do the honors.

Paul: Let's get to a case-- ah, perfect. The slide is up there. So, let's talk about Matt. Matt is a 40-year-old patient. He does not have much in the way of past medical history. He's presenting to your office with reports of acute ankle pain. He had just installed a zipline for his treehouse. And when descending a ladder, he rolled his right ankle and now he has significant pain along the lateral aspect of his right ankle. He is concerned that he may not be able to jump rope anymore, which has been an important part of his life. He is able to bear weight on the foot now, but it is very uncomfortable.

And before we get into it, just to acknowledge again that we see a fair number of ankle injuries in primary care and maybe I won't put this on you, but I feel like a lot of times we somehow forget all of the anatomy that happens below the knee. It's just sort of the foot and ankle and most of the time, we kind of cross our fingers and grit our teeth and hope that it's a sprain and then tell patients to ice and compress and elevate it. I'm wondering if you wouldn't at least start by talking us through some of the relevant anatomy that we need to be worried about here and if you have any broad ways that you think about foot and ankle pain before we kind of get granular.

Dr. Ritter: I usually divided into regions. The ankle, which is the fibula, the tibia and the talus. The hindfoot, the midfoot, and then the forefoot and all the relevant ligaments and tendons that are likely to be damaged. Don't try to remember all of them, just certain ones, because we can't remember all of them.

Matt: Yeah, I do not have them committed to memory. I'd also like to say, Paul, this case felt like a little bit of a personal attack, is a little too close to home with the treehouse and the jumping rope and things but we'll assume it's a different Matt.

Paul: Yeah, different Matt.

Matt: But also, he sounds very cool.

Paul: [chuckles] [unintelligible [00:08:50] yeah, we know who this person is.

Matt: Yeah. Okay, so what's next for Matt, Paul? What else do we need to know here?

Paul: Actually, why don't we ask, Dr. Ritter? So, based on the history that you have so far, I guess I would just sort of in terms of your initial approach, what kind of historical questions would you ask that might be helpful for you and how are you starting to think about that Matt's ankle pain or foot pain, I should say?

Dr. Ritter: It sounds like he rolled his ankle, which is the patient's way of describing an ankle sprain, and it's almost always about 90% of the time the foot inverts and then the ankle everts. And so, there's disruption or injury to the lateral aspect of the ankle. It sounds like he stepped down on it. There's not a huge amount of weight coming down on it or he's not falling from a great height. That makes me think it's less likely to be something serious. But the structures on the lateral ankle, include the medial malleolus, the anterior talofibular ligament, the calcaneofibular ligament, and the posterior talofibular ligament. I'd be looking for disruption to those, fracture of the lateral malleolus, or even a fracture of the base of the fifth metatarsal. Calcaneal fracture is less likely because it doesn't sound like he fell from quite a height. You'll see those usually in patients who jump out of windows or things like that.

Matt: Yeah, apparently, that doesn't happen to 8- and 10-year-old boys because my kids have been jumping [Dr. Ritter laughs], jumping off the treehouse that we listed in this example, which is 8 and 10 feet off the off the ground, but apparently, they're very resilient. But yeah, other than that part of the history, just the mechanism of injury, I get a lot of patients coming in my office with ankle pain. How important is it to ask anything else, like prior ankle injuries, that sort of thing?

Dr. Ritter: It's really important because generally people, once they have an ankle injury, their proprioception is impaired. They may have some ligamentous laxity and then go on to have recurrent ankle sprains.

Matt: Yeah, like the people that you-- my dad used to say he had glass ankles, because he had like 10 ankle injuries, and they just kept recurring throughout his life. So, we thought it was just my dad being a wimp. Apparently, that's like a thing.

Dr. Ritter: Basketball players are famous for this.

Matt: Okay, got it. Got it.

Paul: Again, I will not project this on to our audience who I'm sure are fully capable of it, I will say in my own practice, if someone comes in with ankle pain, I'll just kind of poke at the ankle, and then sort of move it around just because they feel like they expect it.

[laughs]

Paul: And then, if they don't burst into tears, then again, I go back to sort of RICE. but I imagine you have a better physical examination than I do. So, if you could sort of talk us through how you might start to examine that ankle and make sure it's nothing serious?

Dr. Ritter: Well, make sure you take off the socks and shoes, which most of us don't always do. And generally, start with palpate-- or excuse me, inspection, looking for any abnormalities of the bony structures, looking for the degree of bruising or swelling that the patient has. Sometimes, you'll see it even tracking distally, which alarms patients generally. And then, palpation. Don't forget to make sure that the limb is neurovascularly intact. And palpate over the medial and lateral malleolus, the mid foot, which you're generally going to be palpating the base of the fifth metatarsal and then the navicular bone. The navicular bone is the dorsomedial aspect of the foot proximally. Then, finally, functional assessment. I also actually would probably palpate the length of the Achilles and the calcaneus as well.

But the functional assessment would be the anterior drawer where you're stabilizing the leg, cupping the heel with the other hand, and sort of pulling it forward. The talar tilt where you're grabbing the calcaneus and sort of tilting it in an inverted way to see if there's any laxity. And comparing one side to the other is important.

Matt: The calcaneal tilt, you're just checking-- you're inverting and everting the foot and just seeing if there's laxity one way or the other compared to the other side?

Dr. Ritter: Right, and you can actually see the little area where the calcaneofibular ligament is. It may open up more on one side than the other.

Matt: Yeah. So, those are on the lateral side of the--

Dr. Ritter: Right.

Matt: --of the ankle. Yeah, Paul and I were talking about whether or not we needed to memorize the [Paul laughs] the names of the ligaments in the ankle.

Dr. Ritter: Honestly, the palpation part is really important.

Matt: Yeah.

Dr. Ritter: Just figuring out there's any point tenderness anywhere.

Paul: So, I'm doing a very good physical exam [crosstalk]

Matt: You're a great clinician, Paul, so I'm not surprised. Okay, you said neurovascularly intact. So, testing for sensation, feeling their pulses.

Dr. Ritter: Usual, pulses.

Matt: And then, we're palpating the navicular, the base of the fifth metatarsal, the both malleolus, and then you said the calcaneus as well, and--

Dr. Ritter: Right.

Matt: Achilles tendon.

Dr. Ritter: Right.

Matt: Okay. Anything I'm missing from the exam there?

Paul: No, doing great. I would say at least sort of the preparation for this, it seems like most-- we're presenting this mostly as a sprain case, we think. That being the case, it seems like it's usually lateral. If Matt had medial malleolar pain, would that change your examination or your differential in any kind of meaningful way?

Dr. Ritter: Well, you're still palpating the malleolus, this time the medial. You're still palpating the midfoot, which is the navicular in this case, as opposed to the base of the fifth. And then, probably along the length of the posterior tibial tendon, which comes down from the calf, wraps around the medial malleolus, and inserts on the navicular.

Matt: Hmm. And I've heard that the testing-- just back to the testing on laxity, I was reading that sometimes when the person is just acutely swollen and in pain, it's just really hard to do a good-- [crosstalk]

Dr. Ritter: They do not like--

Matt: Laxity exam, so--

Dr. Ritter: They do not like me to move their ankle.

Matt: When you're seeing them back later, if they're still having ongoing pain, it might be more easier to interpret that when they've had some time--

Dr. Ritter: Right.

Matt: --to decrease the swelling and you're just like, "Why isn't this healing right?", maybe then. I don't know that I've been able to test any joint laxity [Paul laughs] unless it's really, really obvious. I need to practice more. Well, Paul, do you want to read--? What's the next part of the case?

Paul: Sure. Let's go through Matt's exam a little bit. So, he's able to bear weight on the foot, though he does walk a little bit of a limp. He has some edema along the lateral aspect of the right ankle. He has significant discomfort with forced inversion of the ankle, although the talar tilt test is grossly normal as far as we can tell. And he has a negative squeeze test. Knowing that stuff now, what further evaluation does Matt need? I guess the question always here is does he need imaging, would be a place to start? Or is there anything else we should be thinking about for Matt?

Dr. Ritter: I'll mention the squeeze test is generally where you compress the tibia, the fibula together at the mid-calf, and it's to test for high ankle sprains. If that's negative, that makes it much less likely. But in terms of the Ottawa ankle rules, for a long time, I had to look these up [chuckles] and you don't have to commit them to memory, unless you don't have a smartphone or access to the internet. But it's usually the-- one of the criteria is a patient comes in with ankle pain. And then, any one of the following, malleolar tenderness to palpation, midfoot tenderness to palpation, or the inability to bear weight at the time of injury, or within about four steps in the emergency room. And these have pretty good sensitivity and specificity, but they were initially studied in an emergency room setting. I don't think Matt needs an x ray because it sounds like [crosstalk]

Paul: Different Matt though-- Theoretical Matt, yeah.

Matt: But also very cool.

Dr. Ritter: So, [crosstalk] because he's really ambulating, he probably has a little anterior talofibular ligament strain, maybe some calcaneofibular ligament. But I usually will actually verbalize preemptively to the patient that I don't think they need an x-ray. Because sometimes, they'll walk away thinking, "That doctor didn't even x-ray my ankle. How do they know it's not broken?"

Matt: Yeah.

Paul: So, I usually throw it out there, "This is why I'm not getting an x-ray."

Matt: Yeah. And it sounds like the Ottawa ankle rules, just looking at the site, most likely to experience a fracture. And looking at the anatomy slides, you said the ATFL, anterior tibial fib-- ATFL is easier to say. [Paul laughs] But anyway [crosstalk]

Paul: Super [unintelligible 00:17:16] 70% of the time.

Matt: I love that name, ATFL just sounds cool. But it just sounds like, just the way if you're inverting or evertting your ankle, that those ligaments attach and they can maybe avulse the bone or something is how I was thinking of it. But it just looks like those are all the spots that are most likely, and the midfoot, you're feeling the navicular I guess with that-- [crosstalk]

Dr. Ritter: The navicular, and then the avulsion of base of the fifth should be distinguished from a Jones fracture.

Matt: Yeah.

Dr. Ritter: And the radiologist should be telling you. An avulsion is really the tip of it. A Jones fracture is more serious, and it occurs in an area that's poorly vascularized.

Matt: Okay.

Dr. Ritter: And prone to not healing well.

Matt: That's like where the shaft meets the base of the fifth metatarsal. That fracture is the Jones fracture?

Dr. Ritter: Yeah, there's like a little-- you can feel it on your own foot. It kind of sticks out a little bit there.

Matt: Yeah, okay. I vaguely remember that from like skateboarding injuries or something, people breaking their-- Yeah, okay. What's next, Paul?

Paul: Should we feel comfortable because he doesn't need imaging? I think we're in sprain land and feel mostly okay about that. I would love to hear-- Actually, I guess my first question for you is sort of doing the preemptive reading, it seems like there is a grading of sprains. And I'm just wondering, is that something you do routinely? Does that add anything to your management of these?

Dr. Ritter: Well, it includes a functional evaluation, which you may not be able to do on a patient. Some of it is subjective, like there's mild, moderate, and severe swelling and ecchymosis, which is pretty subjective. But it can help you with kind of giving the patient an idea of what to expect down the road, how much rehabilitation they're going to need. But again, it may be impossible to grade the sprain initially because of the inability to perform those functional tests.

Matt: So, what would you tell this very cool Matt, who's not me, about how we're going to rehab or how we're going to treat the acute injury and how we're going to get him back to working on treehouses?

Dr. Ritter: The acronym that's kind of used in ankle sprains is PRICE, which is RICE plus protection. So, protection includes any kind of support or assistance that the patient needs for pain-free ambulation. In some people, they're really not having any pain. Unless they're kind of going up and down stairs or running, they don't need anything probably in terms of protection. Some people who are having more pain may need a lace-up splint or a stirrup splint for pain-free ambulation.

And then, people who really aren't able to ambulate without any pain may need a walking boot and that essentially immobilizes the ankle and actually the forefoot. So, keeping them in that for no more than seven to 10 days is recommended. And generally, we would recommend as soon as possible doing rehabilitation exercises even at home, and nonweightbearing if it hurts to bear weight. But I usually tell patients to start doing Achilles stretches when they can. And then also, I just tell them to trace the letters of the alphabet in the air with their toes, which is a good range of motion exercise.

Paul: Are there any resources that you're referring patients to for these exercises or actually, do you ever refer patients for formal physical therapy?

Dr. Ritter: I do give them a handout because they're never going to remember a lot of the stuff. And then, in terms of physical therapy, I have a pretty low threshold for referring to physical therapy, particularly if they've had a prior ankle sprain like your father.

Matt: Hmm-mm.

Dr. Ritter: Look what happened to him.

Matt: Yeah, good glass ankles, you don't want that.

Dr. Ritter: Because the more laxity you have, the worse your proprioception, the less stability, the more likely you are to sprain your ankle in the future. So, I think most patients don't understand the proprioception part and I don't think I did either.

Matt: I didn't even understand that until like a couple days ago when I was [crosstalk]

Dr. Ritter: Yeah. That's where you get on a little wobble board. And that could end poorly, I think, unless you have supervised physical therapy probably.

Matt: Yeah.

Paul: But that is really important because people just continue to sprain their ankle.

Matt: We have made friends with Dr. Ted Parkes who writes this great book, *Practical Office Orthopedics*. And one of the things he said in there about the hinged-- so it's typically the white brace-- or sorry, the stirrup brace that you mentioned, it's a white brace with the hard, rigid sides.

Dr. Ritter: Right.

Paul: And it's an Aircast often, but he said that that's good, because it lets you do flexion/extension.

Dr. Ritter: Right.

Matt: And some patients can tolerate that right away. The lace-up braces, it doesn't let you really do as much flexion/extension or inversion/eversion, but both of the braces prevent the invert-- the stirrup one prevents the inversion/eversion. And then as you said, I never really thought of it that way. The walking boot is really mobilizing but you want that as short as possible, because you want the person's proprioception-- Apparently, they did studies in mice where they totally immobilized some and then they left some motion in the others. And it does have this like microarchitecture change, which I had nothing about, but I thought it was fascinating.

Paul: Can I just ask the audience, just by show of hands, were anyone else envisioning mice in little, tiny boots or was that just me? Okay, thank you.

[crowd laughs].

Matt: I try to provide a rich visual experience for the podcast listening audience.

Paul: All right, just checking in.

Matt: Well, where are we at with this? So, we're talking about why it's important for rehab, and we recommended the PRICE therapy. Medication wise, Matt, this Matt, let's say his pain threshold is not as high as mine, which is exceedingly-- [laughs] Sometimes, I just put my hand on a hot stove just to prove I can still do it.

Paul: Just to feel something. [laughs]

Matt: But what are you going to give him for pain, or what other supportive things do you do?

Dr. Ritter: There's no real data about nonsteroidals versus acetaminophen.

Matt: Okay.

Dr. Ritter: I personally would probably choose nonsteroidals, but you can let them choose. And then, other therapy, I do give them a walking boot if they need it or crutches. And one thing I will say that is a nice touch for our patients and that I always get good feedback from patients about is giving them a handicapped parking placard, which prevents them from them coming back to get one.

Matt: Okay.

Dr. Ritter: So, they really appreciate that, especially if you think they're going to be disabled for a while.

Matt: All right, pro tip there. That's great.

Paul: And at what point are you referring to a foot and ankle specialist when you refer to podiatry or foot and ankle surgery? Is it all fractures? Or are there certain circumstances where you do escalate their care? Or do you feel like-- I guess I'll leave the question there.

Dr. Ritter: If they're not getting better, and I'm in communication with the physical therapist, and they think that there's some significant issues, there's not a lot of data behind repairing the ligaments in terms of improved outcomes. There are improved outcomes with the physical therapy and proprioception. If there's a fracture, you can probably-- I know this is going to sound crazy to an internist, you can probably manage a unimalleolar fractures just with splinting, and then having them seen in a few days like two a week by an orthopedist if you don't think there's any, any other serious issues and it's nondisplaced.

Matt: Oh, yeah, okay.

Dr. Ritter: Especially in areas where there's maybe you don't have easy access to an orthopedist. And then, pretty much all the other ones, bimalleolar high ankle injuries and then trimalleolar, I'd be referring to an orthopedist.

Matt: We've asked this on the show. And I've recently noticed that multiple patients I've sent out with topical NSAIDs, which are now upfront in the arthritis guidelines at least, I haven't been having as much luck as I would have liked. But are you using topical NSAIDs or is it mostly oral medications?

Dr. Ritter: For young patients, I would probably just use orals. Yeah, we give that a lot in our older patients who have some risks with using oral nonsteroidals. But as far as I'm aware, there's not a lot of data behind the topicals, but we give them out all the time.

Matt: Yeah. Well, Paul, are we done with this first case? Should we-- Okay.

Paul: I think so. Why don't we move on to the next one?

Matt: This next patient sounds like a little bit of a jerk [laughs] be we will try. So, Paul is a 46-year-old patient with minimal past medical history, who presents with reports of right posterior heel pain. And he's actually started training for a half marathon, which he keeps reminding everyone about over and over again. He also keeps saying that he's also run a marathon in the past. And it's exhausting. And we think he probably has an AXIS II disorder, but that's not why he's here.

[laughs]

Matt: I don't know why I included all that, but you know.

[laughs]

Paul: Those are all unnecessary details as far as I'm concerned.

Matt: Paul and I are having some relationship problems [Paul laughs].

Paul: A long car ride here.

Matt: Yeah, it's a long car ride. How are you getting home, Paul?

[laughs]

Matt: All right, he's been having two weeks of right heel pain. And it has been bearable, but it's annoying, just like Paul is talking about his marathon all the time. He does not recall any injury that preceded this. The pain is worse when he's climbing up hills. And because he is also a bad doctor, he self-managed a case of bronchitis two weeks ago, prescribing himself levofloxacin for a runny nose. Paul, come on. So, what do you think about--? I mean, not his personality. What do you think about this heel pain?

Paul: It's Theoretical, Paul.

Matt: It's Theoretical Paul, who's not as I-- anyway, what do you think?

Dr. Ritter: It's important to note that he has increased his training, which is going to lead to overuse injuries. And I go back to the anatomy. I just look at what's at the back of the heel. He's not having pain at the plantar aspect of the calcaneus, it's posterior. So, the things that are there are the calcaneus, the Achilles inserts right there at the calcaneus. And then, there's a couple bursa right there, the subcutaneous and the retrocalcaneal. If it's a little bit more medial, again, I'd be thinking about the posterior tibial tendon for him. But there's something about his overtraining maybe or his increase in duration of his runs or the hill work. And then, Levaquin is famous as the fluoroquinolones are for causing tendinitis, even in patients who are not running or doing much of anything. So, definitely a risk factor.

Paul: And any other historical questions that you ask? It seems like you got a fair amount of data there. But other than sort of all the bad examples that he's already provided, is there anything else that you ask patients who present specifically with posterior heel pain?

Dr. Ritter: I ask them if it came on all of a sudden, which generally they will tell you, because apparently if you ruptured Achilles, it's very dramatic. I've had actually a couple of patients who tell me at the time that they thought they had been assaulted, kicked, or hit on the basketball court or the soccer field, because it's so dramatic. It doesn't sound like that's what it is. I might ask him if it's present while wearing shoes, because the retrocalcaneal bursitis may not-- or there's something called a Haglund's deformity where right at the insertion of the Achilles, you get this bony spur. That's much less symptomatic if you're not wearing shoes. And a lot of times people with Achilles tendinitis or tendinopathy will--when they first get out of bed in the morning, and they dorsiflex their foot, the Achilles stretches, so it can worsen that.

Matt: Yeah, I had never made the connection that plantar fasciitis, the first step of the day is painful, because the foot's been in plantarflexion overnight and the Achilles suffers from the same thing. I had no idea. So, for this, what would be next for this case? For someone like Paul, in the physical exam here, is it going to differ much from what we talked about for the last patient that had inverted their foot?

Dr. Ritter: Definitely, you're going to focus not so much on the ankle but on the Achilles and that's really, you just don't want to miss some Achilles problem because it requires lengthy rehabilitation. The fibers are not well vascularized and if there is underlying tendinitis, it can lead to a rupture. So, palpate the entire length of the Achilles tendon from the start to the insertion. If you palpate on either side of the insertion laterally, immediately, you're essentially palpating one of the bursas. So, that may be the bursitis that we had talked about. And then, look for the Haglund deformity, which is usually pretty obvious, which is a big bump.

Matt: I believe I've had that before. I never knew what it was until you just said this. I ran barefoot for, I want to say, six or eight weeks, and then eventually it went away. I could not tolerate wearing shoes, and I was--

Dr. Ritter: Maybe that was a bursitis.

Matt: Yeah, I don't know. It was not fun. But I could palpate some nodule on my Achilles tendon, I thought, for a while.

Paul: So, you can actually. If you start feeling people's Achilles tendons, you can feel thickening and irregularity on the Achilles, or you can feel like an area of prominence. But one of the most important things to do is the Thompson squeeze test.

Paul: Hey, everybody, I just wanted to pop in here for just a second. We were describing the Thompson squeeze test, and also talking about how important it is to rule out Achilles tendon tears. I just wanted to make sure that we were absolutely clear about this. So, the way that the Thompson squeeze test works is you have the patient lie prone on the examination table, so they're lying on their stomach with their feet hanging off the edge of the table, and you'll squeeze their calf and what you're looking for is plantarflexion. So, if they have a partial tear of the Achilles, you may actually see some asymmetry in terms of degree of plantarflexion. But if someone has a complete tear of the Achilles, and you perform the Thompson squeeze test where you squeeze their calf, they won't have any plantar flexion of the foot at all. That's the Thompson squeeze test. We just want to make sure that we got this right. And now on with the show.

Matt: Yeah, I'm trying to picture this.

Dr. Ritter: Yeah, you can do it just with your own.

Matt: Yeah.

Dr. Ritter: Just like when you're sitting here, you see it.

Matt: Okay. All right. So, this is a test that I have not been performing. So, I may have missed-- hopefully, I didn't miss any-- probably, I didn't miss any, Paul. It's probably just--

Paul: [crosstalk] [00:31:59].

Matt: It's probably fine. It's totally fine. Yeah.

Paul: Great. So, let's say that Paul, God bless, the Thompson test is normal. So, we're not going to rupture his Achilles tendon despite his use of levofloxacin. How do you manage the specific injury?

Paul: So, the first thing you have to do, which a lot of runners are not going to want to do, is stop running, or at least most of the time, I would err on to stop running rather than just stop the hills because it just takes so long to rehabilitate. I have a very low threshold for sending people to physical therapy because of the lengthy rehab. And there's also data about a particular type of physical therapy for rehabilitating Achilles tendon injuries called an Alfredson protocol. I don't know, that's all I know about the protocol.

[laughter]

Dr. Ritter: Some protocol. But just knowing that there's evidence behind that is really important. Definitely, Achilles stretches without bouncing. I had one patient with who had bilateral Achilles tendonitis after getting Levaquin, and just giving him heel lifts completely took away his symptoms. So, just a little bit of a heel lift. As I'm sure a lot of people in the audience know, some running shoes have a drop, you can look at what the drop from the heel to the forefoot is. So, there's some that are completely neutral, and then some that have a little higher heel, so the drop is greater. That may be a more comfortable shoe for those patients.

Matt: Because it shortens the tendon there. It's like taking the stress off Achilles tendon.

Dr. Ritter: Exactly. Especially if you-- I bought a pair of those shoes that were completely neutral. And just when you start running on them, it can really get some issues with your Achilles if you're not stretched--

Matt: Because when you dorsiflex, that's putting maximum stretch on the Achilles with the Achilles stretches?

Dr. Ritter: Exactly. Yeah.

Matt: How do you tell them to do the Achilles stretches? Do you have any favorites? Or do you give this as a handout as well? Just for the audience, can you describe what those are like? Would you like--?

Dr. Ritter: I just tell them to-- I show them, I'm still standing against--

Matt: A wall.

Dr. Ritter: Leaning against a wall.

Matt: Okay.

Dr. Ritter: And then, stepping-- like you're going up the stairs but letting your heel hang off the back.

Matt: Letting your heel hang off. Okay, that's good.

Paul: I think a lot of the times, Matt has, again, as we're getting personal here, this sort of educational method where he'll say the exact wrong thing just to elicit the teaching point. So, I'm going to try this now and see how it goes. I feel like a lot of the times, the answer for a lot of musculoskeletal complaints is steroid injections. So, is this someone that I should refer or try to inject a steroid myself just to make things magically better?

Matt: You could do it, Paul. I believe in you.

Paul: Yeah. Thank you.

Dr. Ritter: That would be a really bad idea, because it'll increase your risk of rupture of the Achilles, so would not recomm-- not that any of us would probably start injecting Achilles anyway.

Paul: [crosstalk]

Matt: But this is one of the spots. I know for a lot of orthopedic injuries, the answer is, try some things. If that doesn't work, give them some steroids. But this is not one of the problems.

Dr. Ritter: Right.

Matt: So, is the therapy pretty similar as far as just RICE therapy, oral NSAIDs, if it's safe to give this person then?

Dr. Ritter: It's mostly activity modification, stretching, and physical therapy, yeah.

Matt: Okay. Great, Paul, anything else with this case or should we move on to--? All right? Well, unfortunately, Paul comes back, and [Dr. Ritter laughs] and he's still talking about the marathon, and you begin to wonder if he ever actually ran it. He's now reporting on the plantar aspect of his right foot, that it's worse when he takes his first step in the morning and improves throughout the course of the day. This is, of course, something we see all the time.

Dr. Ritter: Right.

Matt: How do you think about this? What's the diagnosis? How do you counsel patients through this? Or is there anything else you're doing just to confirm the diagnosis?

Dr. Ritter: I think this is probably one of the easiest diagnoses in this whole lecture.

Matt: Right.

Dr. Ritter: It's perfect for telemedicine. Just with that story, you can kind of tell what they have. The first step out of bed in the morning, some patients will have tenderness over the insertion of the plantar fascia. I usually try to talk to patients and explain the physiology because they think the problem is their heel. They think that they have a bone spur on the heel. I'm sure you guys have heard that before. And they think it's the spur, I think, that's digging and making the pain.

So, I go over the fact that there's a longitudinal arch, and the contribution of the Achilles fibers to the plantar fascia, and that the problem is the arch of their foot and the plantar fascia. The arches aren't getting supported. The plantar fascia is too tight. I try to address that, and have them do stretches, wear orthotics to support the arch. And then again, specifically tell them that an X-ray is not indicated. And tell them to wear supportive footwear. And generally, I tell patients who are runners to change their shoes every 250 to 500 miles, and to only use their shoes for running. Otherwise, they're not going to know how many miles they have on their shoes. There's no real benefit in-- you know how you go into running stores, and they'll put you on a treadmill. And then, they bring over this \$100 or--

Matt: [crosstalk].

Dr. Ritter: Yeah. And then, they try to sell you the orthotic. Those have never been shown to be superior to off the shelf. So, start with off-the-shelf orthotic to support the arch, stretching. Heel cups or heel pads are of no benefit to them. But sometimes, that's what they've already used when they come in because they think the problems with their heel.

Matt: And you mentioned the bone spur and not getting an x-ray. I was reading that there's some degree of ischemia from just the biomechanics at that spot where the plantar fascia inserts onto the calcaneus, and that starts to become calcified. And if you get an x-ray, you see this calcified and kind of pointy-looking thing.

Dr. Ritter: I know.

Matt: And the patients are, "Oh, that must be where my pain is coming from."

Dr. Ritter: Because it feels just like there's some kind of--

Matt: Yeah.

Dr. Ritter: --bony structure.

Matt: And often, the radiologist will comment about a spur, not necessarily implying that that's the cause of the pain. Then once that's on that report, people are going to go, "I have a spur. That's my problem. I need that thing removed." I've definitely seen that patient before. So, I hopefully now have something to say to them about it, that it's not the likely cause.

Paul: Can I ask-- Actually, because I feel like this is so easy to diagnose and I think we almost don't think of anything else when we think about plantar pain. I just wonder if there are any other mimics or anything else that should be on a differential that we should at least consider. Because I feel like anytime someone's like, "My foot hurts," regardless of history or anything else, we're like, "All right, plantar fasciitis, I got this." Is there other stuff that we should be worried about here or different presentations that [unintelligible 00:38:54] something else clinically?

Dr. Ritter: If it's more medial, the posterior tibial tendon is again a concern because it sort of more but it's definitely more medial. And then, tarsal tunnel syndrome, which is analogous to carpal tunnel

syndrome, where the nerve gets trapped in the retinaculum that connects the medial malleolus with calcaneus. So, there's a compressive neuropathy with pain that shoots down the bottom of your foot.

Matt: And which tendon was that? I missed that part. What gets compressed between the--

Dr. Ritter: The nerve?

Matt: Yeah, okay, the nerve got it. So, for this person, what do you tell them about the stretches and the expected prognosis of this because I find that this is the hard part for patients to digest.

Dr. Ritter: Actually, most plantar fasciitis goes away after about a year no matter what you do.

Matt: Paul feels bad now and [crosstalk]

Matt: He's a bit of a--

Dr. Ritter: We feel like we need to give them a medicine too all the time. But this is another case for handouts, giving the patient a handout that puts in black and white, the recovery, what the patient needs to do, which is order footwear, stretching, rolling a ball on your foot to stretch the plantar fascia, stretching the Achilles. And then, there's the cold Coke can or a frozen water bottle that you roll under the foot as well.

Matt: Right. And this is you have them wrap a towel around their foot and pull their toes them.

Dr. Ritter: Right.

Matt: Okay.

Paul: Which actually seems like a replication of the windlass test up there. Are these things that you are typically doing here to make you turn around in terms of physical examinations--

Dr. Ritter: Yes, yeah.

Paul: Rather than sort of poking at the insertion point and sort of stretching the toes?

Dr. Ritter: Yeah, the thing I found though that I-- It's such a classic presentation, and then I push on the heel, and the patient is very upset with me for pushing, and like, "What?" And then, I'm like, "Why did I do that?"

[laughter]

Dr. Ritter: I know what it was. I don't know that it adds anything.

Paul: [crosstalk].

Matt: I wanted to make sure we do talk a little bit more about the posterior tibial tendon dysfunction. Do you want to save that, Paul, or do you want to-- [crosstalk]

Paul: Nope, now is the time.

Matt: Because this wasn't something that I was familiar with, but the posterior tibial tendon, it runs around the medial malleolus and then it sort of pulls up and helps support the arch of the foot. How does that present? What would that presentation look like, the illness script? And I don't want to miss this, and I feel like I may have missed it.

Dr. Ritter: I think I've missed it a lot. But since I noticed and I've read more about it, it's generally a middle-aged woman, maybe overweight, wearing poorly supportive shoes who comes in with medial ankle pain. And it tends to be a burning pain and it tends to radiate up the leg. We talked about the too many toes sign. I don't want to preempt your question of the too many toes sign.

Paul: Not the time. Tell us about the too many toes sign, Matt. Different physical exam finding though.

Dr. Ritter: You have the patient stand facing away from you with their feet together without their shoes and socks on, and you look for how many toes are kind of peeking out laterally. If you see more than about two and a half, that suggests that there's a laxity or there's acquired flat foot laxity of the posterior tibial tendon.

Matt: Right. For the people in the podcast audience trying to visualize this, it's like if you're viewing the person from behind, their lower leg is blocking several toes. So, you should only see maybe like two toes or so, two and a half-- [crosstalk]

Paul: Two and a half peeking out.

Matt: --laterally to their leg. But if you see more than that, that's the too many toes sign, which is aptly named, Paul.

Paul: Yes.

Matt: Because it's nice not to have [Paul laughs]. It's so much more useful than an eponym which is-- [crosstalk]

Dr. Ritter: That's true.

Matt: Which does nothing for me. You've got to remember the eponym. So where are we at next, Paul? We are moving on to a new case here?

Paul: Let's move on to a new case.

Matt: I think we've cracked this one.

Paul: Yeah, I think yeah. Paul's plantar pain is solved, I guess.

Matt: Okay.

Paul: Let's talk about Patricia. She'll be our last patient of the day. She is a 24-year-old patient who has actually run several marathons as opposed to Paul. She is coming into your office, says has a two-week history of a nagging medial midfoot pain. She is not able to really well localize it, just kind of gestures vaguely in the area. It's worse with walking and running. It is relieved with rest. I feel like midfoot pain is probably of all the foot and ankle complaints, the one that brings me the most anxiety because it's the one I feel like I know the least about. So, what differential should we be thinking for Patricia here?

Dr. Ritter: So, she's clearly exercising a lot. She's a young woman. You'll know on the exam whether she's underweight. Maybe she's exercising too much. But this insidious pain that gets worse when you exert yourself, located near a bony structure is usually a stress fracture of some kind. And if it's medial, then you think of the navicular and also some of the metatarsals. So, stress fractures of those bony structures is what I would be thinking about.

Matt: And what would be-- so you get an x-ray [crosstalk]

Dr. Ritter: I would get an x-ray.

Matt: And if she does end up having a stress fracture, is that someone that you're referring to see a foot and ankle person or are you just giving them a brace or like a walking boot or something?

Dr. Ritter: If they have pain with any weightbearing, depending on where the stress fracture is, you can give them something to protect it like the-- if it's a metatarsal, and-- have you seen those postop shoes where it's basically a stiff sole that doesn't allow you to bend at the metatarsophalangeal joints? That may be enough. I try not to put someone in a boot if I can help it because that just immobilizes the Achilles and causes more problems. But if she's having pain with any weightbearing, you may need to do one of those two things. She definitely needs to modify her activity which again, is not that easy for runners to do.

And if there's a metatarsal stress fracture, just generally finding another way to exercise, like in the pool on a bike, to maintain your cardiovascular fitness so that when you do go back to running, you can. And then, you just have to gradually increase exercise. And if you have pain, then you stop and go back. If she kind of has an uncomplicated recovery, I won't refer her. But if she seems to not be getting any better and if you're suspicious that it's a navicular, that would be a reason to refer her right away.

Matt: Why is that for the navicular? What's different about that?

Dr. Ritter: If the x-ray is negative, and she doesn't get better, and you think the pain is in the navicular area, additional imaging is recommended, like a CT scan or an MRI. Because again, it's one of the bones that's at increased risk for non-healing. And actually, in one study, the time to healing for individuals stress fracture was about nine months. So, it's a pretty serious injury.

Paul: This feels like something that could be missed too.

Dr. Ritter: Yeah.

Paul: This is the case that I wrote the case, then I got anxious about it.

[laughs]

Paul: Which is probably not healthy. But I feel like this can be easily missed, because you can misapply Ottawa ankle rule. So, it sounds like this is something we actually unfortunately have to listen to the patient and have high clinical suspicion as opposed to [crosstalk]

Dr. Ritter: Yeah, it tends to be either repetitive stress with playing stop-and-go sports like tennis or soccer or running. And the idea is that navicular gets compressed between the adjacent bones, and the blood supply is not great.

Matt: Well, how are we doing on time? I think maybe we go to the next case, Paul, and then we can see if there's any questions?

Paul: Yeah, sounds good. So, we'll stick with Patricia for right now. We're going to change her history a little bit. We'll say that she no longer has time for running her marathons. She's taking on a position in a high-powered law firm. In that firm, she is required to wear high heels for long hours most days and is coming into your office now with pain at the ball of her left foot, so on the plantar aspect. She feels almost like there's a pebble in her shoes. So now, we're sort of in the metatarsal sort of area, I suppose. What should we make of that? What kind of things should we be thinking about for Patricia now?

Dr. Ritter: I would diagnose as metatarsalgia, which is actually more of a symptom than a diagnosis, and then start my differential from there, I probably would do an x-ray because there are certain injuries

like a vascular necrosis of the head of one of the metatarsals that can be pretty serious, and that would require a referral. Or, she could have osteoarthritis, she could have maybe a little stress fracture, I would probably get an x-ray for her, an AP and lateral.

If that's normal, I just apply the metatarsalgia treatment. It doesn't really matter what the diagnosis is so much. It could be a Morton's neuroma, bursitis, capsulitis. As you get older, you lose the fat on the bottom of your foot actually, so you're more prone to having just the metatarsalgia. But the treatment is all the same. If you've ruled out anything serious, you offload the forefoot by decreasing the heel height, widening the toe box. And the best, my favorite orthotic of all time is the metatarsal pad. You actually have a transverse arch of your foot right behind the MTPs, and you have to support that. So, a metatarsal pad, it's a little pad that you put in that transverse arch.

Matt: On the plantar side of the foot, just helps support the arch.

Dr. Ritter: Yeah, and you have to show the patient where to put it because they will inevitably put it right over the MTP joints because that's where it hurts, but you actually have to put it behind them. There's actually studies that show the actual distance between the MTP joint and the top of the pad has to be about 10 mm. And I don't know if you all have ever used one.

Matt: I haven't. No, no.

Dr. Ritter: It really is life changing. I was training for a half marathon, and I developed a Morton's neuroma and I just kept training with my little metatarsal pads. So, it's really a nice little trick to have for patients, and they're inexpensive, you can buy them over the counter. So, those are the things. I would offload the forefoot, use a metatarsal pad, change your footwear.

Matt: Yeah.

Paul: And we built this case a little bit to sort of lean maybe towards Morton's neuroma, specifically with the choice of footwear. Would you mind sort of talking a bit about the impact of footwear on the development and sort of management of Morton's neuroma?

Dr. Ritter: Morton's neuroma is actually a misnomer. It's just a thickening of the area around the more the nerve. It's actually not a thickening of the nerve itself. But it gets caught between all the little ligaments and the bones down in that area of the foot and then, you're taking the foot and jamming it into a narrow toe box, whether it's dress shoes for men or ski boots, and you're compressing it and it thickens as it runs between usually the second toe space, but it could also be the third. So, those are the most common places for Morton's neuroma. If the pain is in the first or the fourth, it's unlikely to be a Morton's neuroma.

Matt: And this is one that does occasionally get treated with steroid injection, I believe?

Dr. Ritter: Well, actually, if they have bursitis or capsulitis, those can be treated with steroid injection as well.

Matt: Yeah, okay.

Dr. Ritter: Sometimes when I send them to the podiatrist, which I would for that injection, they just inject it, and it gets better.

Matt: And just going back to one of the previous conditions, the plantar fasciitis, I was reminded when prepping that the injection for that can be done, but it's a little bit technically difficult and one of the more

painful injections. So, before you jump to that for patients, I don't know, are you sending patients for that, for any of these other conditions you talked about today?

Dr. Ritter: I just send them, but I don't know. I don't like dictate what's going to be done.

Matt: You're not selecting [crosstalk]

Dr. Ritter: But I have seen patients who get that done or shockwave lithotripsy done or whatever.

Matt: Yeah. Okay. Well, Paul, what do you want to do here? Should we take any questions if there are questions, and then we can wrap up? And we can hang out and answer any other questions, but I want to let people-- be respectful of their time and let them get going.

Paul: For sure.

Matt: Audience, anything that wasn't clear today, you can call it out. And we'll just repeat it on mic just for the audience at home. Yes, yes, sir.

Audience Member: [unintelligible 00:51:34]

Dr. Ritter: So, there's no running shoe that's shown to be superior to any other running shoe because of what's called the kinetic chain, which is how your legs move or your foot moves relative to your legs to your torso. It's so complicated in all of us that even with gait analysis, it's hard to determine what shoe is best. Most people would agree that you have to work your way up to the [crosstalk]

Audience Member: [unintelligible [00:52:31].

Dr. Ritter: Yeah, that's what I'm thinking of. Because the intrinsic muscles of your foot may not be strong enough to use those. So yeah, I wouldn't go out and run more than a mile or two in those first because whenever you get new running shoes, it's better to swap them out, I think. The ones I got that had zero drop, they caused me problems. But most of us, we find a good pair of running shoes, we just stick with that for year after year. And God forbid, they should discontinue.

Matt: I had like New Balance 57/40 for like 15 years.

Dr. Ritter: Yeah, exactly.

Matt: For the audience at home, if they didn't glean what it was, it was about the toe shoes, the barefoot running movement. It sounds like just wrap yourself up. Don't just-- if you're already running 50 miles a week, don't start running 50 miles a week in a totally different type of shoe that might cause problems. That makes empiric sense.

Matt: Any other any other questions from the audience about anything we talked about today? One further question I had was about the posterior tibial tendon dysfunction. Is that just treated with arch support and stretching, like some of the other things we talked about? Is there anything else to be done for that?

Dr. Ritter: Initially, it is. Proper footwear is really important, and arch supports to take the pressure or the stress off of that tendon. In my experience, people will take a long time to get better. And so, if they're taking longer, I send them to a podiatrist. And sometimes, they need surgery.

Matt: Yeah, to adjust the tendons somehow.

Dr. Ritter: Right, exactly.

Matt: In general, for the conditions we talked about today, are you seeing people monthly, every six weeks? I've found that with orthopedic injuries in general, if you see people back too soon--

Dr. Ritter: Yeah, then you're just like--

Matt: They're not feeling better yet and they're like--

Dr. Ritter: And then, you--

Matt: "I don't feel any better. You're not very good at this." I'm like, "I know, but you need more time."

Dr. Ritter: Yeah, with the tendons, any tendinous injury takes a long time to get better. I'd say the exception may be stress fractures or other overuse injuries because most runners-- maybe not most but many runners run as therapy, to manage something else, to make themselves feel better to manage their weight, to manage anxiety, depression. Not saying everyone does, but--

Matt: No, she's not throwing shade to you, Paul.

[laughter]

Matt: I mean, come on.

Paul: So, this is making a lot of sense, by the way.

Dr. Ritter: But if people get so used to running or they're training for a race and you tell them to stop running, it's very difficult for them to stop running. I just try to-- they may need a little bit more moral support. Encourage them to-- Yeah

Matt: I think the pool is a good option if they have access to a pool. You can let out a lot of aggression swimming laps in a pool.

Well, Paul, I think this has been fantastic. I think we've worked a lot out about a relationship [Paul laughs]. The audience has been great.

Paul: I see a long car ride home.

Matt: At this point, I think should we go to Take Home Points or go to the outro?

Paul: Take Home Points and the Outro, I think.

Matt: Dr. Ritter, if you could give us just maybe two or three favorite Take Home Points. And then, we'll let you get on with the rest of your day. I'm sure this podcast has been the highlight of your day, but you know.

Dr. Ritter: I'll do my best. I think not missing Achilles injuries is really important. And I'm by no means an expert in this, but over the five or six that I've diagnosed Achilles ruptures, almost all of them had been seen by physicians before. It's really important. Some people describe it as ankle pain, and that doesn't sound to us like an Achilles injury. So, just have a low threshold for working that up. I would respect the ankle sprain. It's not just an ankle sprain, it can lead to prolonged disability. And I guess start using more of this. I used to-- just my eyes would glaze over when someone-- I remember this little old lady was saying, "My feet hurt." And I was like, "I don't know what to do with that." I would just like change the subject or talk about our blood pressure.

[laughter]

But I mean, these this is not rocket science, obviously. And the more you do, the more comfortable you feel and the more you'll take care of these patients.

Matt: Yeah, I think that has been our-- we've done shoulder, elbow, knee hip, now ankle, and we have a hand-- Yeah, we felt the same thing, and that's why we were very fortunate to have your teaching today. And thank you so much for being on the show.

Dr. Ritter: Oh, my pleasure. Really appreciate you coming. It's a nice little morale lift for us. We really appreciate it.

Matt: Yeah, despite Paul, it's been great.

Paul: Sure. And on that note, before we actually get to the outro, why don't we get one more-- cheap heat and actually just a round of applause again for Dr. Ritter for spending her time with us.

Dr. Ritter: Thank you.

Paul: This has been another episode of the Curbsiders bringing you a little knowledge food for your brain hole.

Matt: Yummy.

Paul: And right in front of it.

Matt: Feels good.

Paul: [laughs] Get your show notes at *thecurbsiders.com*. And while you're there, sign up for our mailing list to get our weekly show notes in your inbox. Plus, twice each month, you'll get our Curbsiders digest recapping the latest practice-changing articles, guidelines, and news in internal medicine.

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Special thanks to Dr. Paul Williams for writing and producing this episode and to our whole team. The Curbsiders is produced and edited by the team at Pod Paste. Elizabeth Proto runs our social media. Stuart Brigham composed our theme music. And Paul, with all that, until next time, I've been Dr. Matthew Frank Watto.

Paul: And I remain Dr. Paul Nelson Williams. Thank you and goodbye.

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