Sports Injuries of the Foot and Ankle
Webcast
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Introduction

Andrew Schorr:
Hello and thank you for joining us once again on Patient Power sponsored by Northwestern Memorial Hospital. I'm Andrew Schorr, all energized because I'm back from vacation, and all the kids got along, the wife got along, everybody was happy, and it was very enjoyable. Hopefully if you've already had a vacation it's been good for you. Or hopefully you have one coming up, and that will be good too.

And often it's during vacation that those of us who are less active become more active, so you go for the jog or the long walk or maybe you play some game, kick a soccer ball with the kids or grandkids, or maybe you're someone who is active all the time. Well, as we get older or maybe even when you're younger there's always the chance of injury. And I don't want to say just sports injury, it just could be injury from being active. So that could be a knee you hear about a lot. But what about your foot? So there I was on the treadmill, or I actually got to go to Europe which was a lot of fun, and so I'm trying to dodge the cars and the motorcycles and run through the street. Well, what if I had twisted my ankle? Well, maybe it's just a sprain, maybe not. Maybe it's something more serious. Well, how do you know when it is something more serious, and if it's your feet you're not going to be very mobile if there's a big problem.

So we're going to discuss that today with a renowned expert. We're going to discuss sports injuries of the foot and ankle. We're also going to meet an athlete who suffered one and really had to figure out was it something serious or not and then how to get the best care. And as you can guess, we're going to suggest that there is some great care through Northwestern Memorial. Let's meet one of the leader there, that's Dr. Armen Kelikian. Dr. Kelikian is not just your ordinary, if you could even say that, orthopedic surgeon. He is an orthopedic surgeon, but he's a professor of orthopedic surgery at Northwestern University's Feinberg School of Medicine, and of course he's on staff at Northwestern Memorial, but he's also a team physician for the Chicago Bears.

Dr. Kelikian, I've always wondered what goes on. You know, the game stops, unfortunately somebody is injured, and you or one of your colleagues are going out there, and there are thousands of us in the stadium or many more watching on TV. What are you checking on to just see how serious, you know, what are you dealing with? Take us out there on the field for a minute.
Dr. Kelikian:
Well, basically when you are on the side lines the most important thing is when you see these guys coming at you high speed, big bodies, you're going to get out of the way because a guy my size will get knocked over and hurt worse.

Andrew Schorr:
That's for sure.

Dr. Kelikian:
But when you see something on the field, the first person who is motioned out there is the trainer. And they'll go out there and see the patient, the football player in this case, and usually they'll wave on one of the physicians. There's usually three of us there, three to four of us. Depending on what type of problem it is, if it's a knee problem the knee guy would go out, a foot and ankle problem, I'd go out myself. But they're basically going to just check them, make sure it's not an open injury where the skin is ripped open and the bone is exposed. And they'll stabilize it, and if they can walk they'll walk off and they'll go to the locker room, and if not they go in the golf cart. You've seen that probably every Sunday, you've seen somebody go off in the golf cart on television.

Andrew Schorr:
Right. Now, do you do x-rays right there at the stadium?

Dr. Kelikian:
Right. We have a full digital x-ray, which means an internet or computer quality high resolution x-rays, and that's right in the trainer's section of the locker room.

Is it a Sprain or Something More?

Andrew Schorr:
Wow. Now, I know that of course with athletes you check it even further. Often we read the paper or watch the sport casts, and we know that regularly here, well, this athlete or that one, then there's an MRI that follows to more fully assess the damage. But we at home we may do what we think is a sprain, and often there isn't that detailed investigation. Are there many of us just having simple sprains and it's no big deal or is there a concern in orthopedics that sometimes a more serious injury is overlooked?

Dr. Kelikian:
That's true. The most common injury that we see orthopedically in this country in sport is ankle sprains. I think it's up to 25,000 people a day will sprain their ankle. Not all those people seek medical care. Usually the rules, these are guidelines and these have been tested out in studies to see if they're scientifically valid, but if you can walk on something within an hour of the injury and you don't have pain and you're not tender over the bony prominence—you can feel on your own ankle when you touch that little bone, it's like a little meatball on the outside, it's called the
fibula, if you touch the bone and you’re not tender on the bone it's not likely you've broken it. But sometimes a severe ankle sprain, depending on the type of mechanism, the way it happened, can be worse than fracturing your ankle.

So I think one thing would be the amount of swelling after a couple of days would be one thing that you should look out for. Whether you can walk on it or not within reason without limping significantly and whether you're tender on the bone, those are things that should alert you that you might have a problem and should seek medical advice. I don’t think most people just jump in the emergency room after they sprain their ankle.

Andrew Schorr:
No. No. But is there a rule of thumb like if you can't walk on it in an hour, or is there some formula that we could use at home?

Dr. Kelikian:
Well, yeah. The rule of thumb is called the Ottawa rules. This is something that came out of the Canadian healthcare system and it helped to control costs and things like that too. But it's basically if you're tender on the bone, that's not good. If you can't walk within the first hour, you're having pain walking on it the next day and you're limping, that's another clue you might have something going on. And if it looks disfigured, crooked, then you definitely have something going on. So I think those three things would help you the most.

And say you get a mild ankle sprain, you can walk, you can limp, it's swollen you've done the RICE treatment, that's rest for R; ice for I; compression, ace bandage or whatever; and elevation. If that hasn't improved after couple, three, four days you probably should have it looked at. It could be a different type of injury, possibly your Achilles tendon or something like that that might be misdiagnosed as a sprained ankle.

Andrew Schorr:
Dr. Kelikian, you know, when I think about the foot, how many bones are there? We think of it as just our foot, we know about the toes and the foot and the ankle and we think about those basic parts, but it's really more intricate than that, isn't it?

Dr. Kelikian:
Correct. Yeah, there's over 28 different bones. You have five metatarsals, and then you have five toes, and each one of those tows has two or three bones, and if you do the math you're getting to about 28, the amount of bones, depending if you were born with some extra ones as well.
Lisfranc Injury

Andrew Schorr:
Well, let's talk about some of the injuries. We're going to meet one of your patients in a second. He's with us on tape. He couldn't be with us at this time but has quite a story to tell, and he had something called a Lisfranc injury. So just as we listen to his story, what is a Lisfranc injury?

Dr. Kelikian:
Lisfranc is an eponym for someone's name, and it's Napoleon's war surgeon in the Napoleonic wars in the early 1800s. The soldiers would fall out of the saddle, their foot would be in the stirrup, and their foot would go down all the way just like a ballerina would go on pointe, a Lisfranc injury you tear the ligament on your instep. Now, in those days it was a little more gruesome. You don't see that that much now, but they were actually fracture their foot, break it there, and the skin would be open and this was before x-rays and things like that that came 60, 70 years later, but they would actually do an amputation on the battlefield at that location. So Dr. Lisfranc or Professor Lisfranc or whoever, this was before x-rays, his name got attached to this later on posthumously, after he passed away. They called that anatomically Lisfranc ligament because he describes that injury back in the early 1800s.

But what we see in sport now is a severe sprain at the mid part of your foot, and the mid part of your foot is like a Roman arch and if you lose some of these ligaments the thing get sloppy and starts to collapse and become deformed. So it's an injury that the subtle ones can be commonly missed. It's very common in football.

Eddie's Story

Andrew Schorr:
Okay. We're going to meet one of your patients who is a rugby player. Let's listen to that to really understand what a serious foot injury could be and how you can work to get the proper care, and then we'll be back with Dr. Kelikian.

Andrew Schorr (on tape):
Let's meet Eddie Bluemel. Eddie's 28, a patient of Dr. Kelikian, and he is from Chicago, but his day job is in investment banking, commercial real estate, but his passion is really representing our country playing highly competitive rugby. Did I get it right there, Eddie?

Eddie:
That's right. It is a passion.
Andrew Schorr:
Well, playing rugby and playing it at any level is a highly physical sport. What happened last March? I understand you were playing in Philadelphia. Just describe what happened that, as we will hear your story, led you to Dr. Kelikian?

Eddie:
Really, it's a pretty routine play to be honest. When it happened I really didn't know has had happened. I just kind of felt something was a little bit off. But just like you'd see in football where a running back, receiver or quarterback might be diving for the goal line for the pile-on in the corner where they extend the ball out to cross the goal line, I was doing that. And in rugby you actually have to touch the ball down to the ground, so it's required, unlike football. So as I'm trying to elude some defenders trying to tackle me, I'm diving ahead toward the goal line and with my arms extended and my feet basically extended behind me. My foot, both my feet, the tops of my feet were on the ground so my toes were dragging. So if you can kind of picture that mechanism. Something happened there. Dr. Kelikian says that that is the movement of the foot and that the way that it has to be situated for this injury to occur.

I didn't feel it right away. I got up and started celebrating with my teammates because we had just scored and started to walk back toward the middle of the field, and that's when I felt something was off. To me it felt like a foot sprain. And if people are listening to this that don't understand what that might feel like, it's more in your mid foot, just kind of the top of the foot. The pain might actually extend to the bottom of the foot, but kind of around the muddle. So I continued to play on it for about 10 or 15 minutes or so, and when I noticed that I couldn't in fact walk it off, that's when I signaled to the side line and said, you know what, this probably isn't something I want to mess around with. So I pulled myself out of the game, immediately put ice on it, and I sat on the sidelines for the rest of the game.

Andrew Schorr:
Right. Now, I know your hope was to play the following day.

Eddie:
Yeah.

Andrew Schorr:
And you flew actually to San Diego, right?

Eddie:
I hurt myself in Philadelphia. I was scheduled to train with the United States National Rugby Team at the Olympic training facility which is in Chula Vista, California, that's just south of San Diego.

Andrew Schorr:
And you tried to do that but then the pain got the best of you again.
Eddie:
Right. I wanted to fulfill my commitment to the team and also wanted to do what I could to play, thinking that maybe my injury wasn't that bad. Maybe it just needed a day or two to heal itself. I flew to San Diego, saw a doctor out there right away who said you know this probably is a Lisfranc injury, but I don't know how severe it is right now. If you really want to compete we'll try to make that happen. So I received a shot of cortisone out there and was told to rest for the remaining half a day and then I should try to pick it up tomorrow, the next day, and see how it felt.

Andrew Schorr:
But he called again after reviewing the x-ray and said, yes, this is a much bigger deal.

Eddie:
Right. And I was a little bit concerned that that might happen. I was literally lacing up my cleats, excited and geared up, ready to practice for the first time because I had taken the previous two days off, and the coach pulled me aside and said doctor says this is more serious than we originally thought, and you're going to be down for four to six weeks.

Andrew Schorr:
So back to Chicago. You connected with Dr. Kelikian, one of the renowned specialists in this, and as he examines you he tells you that you really have a choice but the leading option seemed to be surgery because I'm told your ligament was just totally torn away.

Eddie:
X-rays didn't show much, but him feeling around my foot told him that there's a lot of instability. So the MRI which he had done after feeling my foot revealed, like you said, the snapped ligament. He said there were a couple of options. One was just to rest, not to do anything, and to see if it starts to heal itself on its own. But he said it doesn't usually happen, especially not with the instability that he was feeling. The second option would be to do the surgery, but that is going to take six maybe nine months to fully recover from. The first option if it doesn't heal itself then we're going to be doing surgery anyway. So I thought it was pretty much a no-brainer decision. Do the surgery. That way in six to nine months I'm guaranteed to be well, of course there is no guarantee, but that's my best chance of making a full recovery.

Andrew Schorr:
Right. So let's pick up the story there. So we're about four months after surgery now. You've been working hard with physical therapy. I think a zero gravity machine.
Eddie:
Yeah, it's actually called the Alter-G, short for alter gravity. And what that machine
does, it's a treadmill essentially with a bag. So if you can picture like a vacuum
sucking bag that you actually step in and sort of zip to, just like a zipper on a
jacket. And you zip up, and what it does is it measures your weight and then you
can set the vacuum to a certain percentage of your weight. In other words, if I
want to set it to 50 percent it will actually reduce the weight that is within that
vacuum, and it's usually just your lower body, so you're looking at doing this for
just lower body injuries or rehab, to 50 percent. So what it does it allows you to
run, get that movement or in some cases stay in shape or continue to do your
cardio workouts without putting the impact on your lower body ligaments--

Andrew Schorr:
That is so cool. So the result is we are four months after surgery. You've been
dreaming of actually being able to participate in the summer season of rugby, and
that's coming up fast, and you've already played.

Eddie:
I have. Yes, it's a bit earlier than I was supposed to come back, but I got the go
ahead from the doctor to be as aggressive as I could, as long as I promised myself
that I'd be responsive to what my foot is telling me and what the rest of my body
has been telling me. I've also been working with the physical therapist who is also
our rugby team trainer, so he's been helping me do rugby-specific things and
exercises that he thinks will really help me get back a little bit earlier too.

Andrew Schorr:
That's such great news. Now, let's point out some things to folks who are listening.
First of all, you said at the beginning you thought it was a sprain. Looking back on
this, because that happens to thousands and thousands of people, most of the time
it is a sprain, but what if it isn't? What would you recommend to people so that
they get a care they need?

Eddie:
Find a doctor like Dr. Kelikian.

Andrew Schorr:
That's an easy answer. In other words, don't mess around if you have a concern, I
guess.

Eddie:
Yeah. Really, the doctor I saw in San Diego, Dr. Chow, who actually knows
Dr. Kelikian. I don't know how well, but they definitely knew of each other. Both of
them mentioned to me that this is a highly misdiagnosed injury and one that
sometimes goes a month or two before you actually get it right. And the concern
with that is that the ligament already starts to heal itself and sometimes in
detrimental ways by that point, and it was very important to the doctor that I got
the surgery done within a week or two weeks, it ended up being ten days when I got in the operating room, because you don't want the healing process to start in the wrong way.

So I think the real answer would be to try to find a doctor who is a leader in the field and if you can't then try to find two or three or four doctors to get multiple opinions because it's not uncommon for even doctors who have a lot of experience to get this one wrong the first time.

**Andrew Schorr (back live):**
Well, I love Eddie, and you'll hear more from him shortly. So we're going to take a short break and when we come back we're going to take your questions as we continue our program. We have a lot to learn from Dr. Armen Kelikian, whom you've heard from and heard about because so many of us have these foot problems, and we wonder, Well, is it our shoes? Have we injured it? Do we need further care? What can we do at home? Can it be something handled without a big intervention or do you need surgery? Oh, my god, if you need surgery when can you have rehab, and can you do something sophisticated like Eddie did to keep your heart pumping and stay in shape. Lots more to come.

Remember, sending us an e-mail will get to us, nmh@patientpower.info. Or call us 877-711-5611. We'll be right back with much more Patient Power sponsored by Northwestern Memorial Hospital.

**Shin Splints**

**Andrew Schorr:**
Welcome back to our live webcast. Andrew Schorr here. We do this every two weeks with Northwestern Memorial Hospital and their leading experts, connecting you with authoritative, very credible information. Remember, if you want to participate in our live webcast tonight it's easy. Just send a question or a comment to NMH for Northwestern Memorial Hospital, nmh@patientpower.info.

We're visiting with Dr. Armen Kelikian, who is not only a team physician for the Chicago Bears but a noted orthopedic surgeon, a professor at Northwestern's Feinberg School of Medicine and of course on the medical staff at the hospital. And today we're talking about sports, but that can be just being active, not necessarily being a Chicago Bear, and foot and ankle problems. And I know that thousands of people have these problems. Many go to the doctor, not everybody. So we're talking about foot, ankle, ankle sprains, could be Achilles tendon injuries, overuse injuries. I'm guilty of that. I'll raise my hand. Shin splints.

Let me ask you about shin splints, Doctor, because I'm a runner. What are shin splints anyway? What's going on when you have a shin splint?
Dr. Kelikian:
Shin splint is just a common lay person's name for it. On the inner side of your leg bone, your tibia, on inside you'll feel a flat bone, a triangle shaped bone, the tibia. That's your leg bone from your knee to your ankle. And there will be a flat surface where it's just skin and bone, and right behind that flat surface is a muscle. It's called the posterior tibia muscle, and its function is to twist your foot in. When you're running you're doing a lot of that. Your foot is going in and out, in and out, and it's almost like microscopically the muscle, which is, you know, like it's meaty, the tendons a rope but the end of the muscle is attached to the bone, the muscle is pulling off microscopically some of the attachment fibers off the bone. And it gets inflamed. It's almost like the tennis elbow, which is the same in principle in your elbow but it's on your shin.

And sometimes people have certain deformities, high arch or something like that that would make them more prone to this. Sometimes it's an overuse thing. Maybe they just overdid it or they weren't quite in shape. They're too tight, they're not flexible. And usually people get pain. And the other thing it can mimic that you've got to be careful with when we see it is it could be a stress fracture, meaning you could have actually have a hairline crack in your bone, and it could look just like a shin splint but it's more of a serious problem. If you keep running on it it's going to crack all the way through and break, you know, or it's going to move.

Andrew Schorr:
Wow. Well, you know I ran a bunch of marathons in my younger years, and there were people who just sort of became addicted to running, the runner's high, if you will. And they would develop some pain and maybe the fear of an injury but would just want to run through it. And also I know there's always this debate whether you're a runner or any other sport about what are the right shoes for you. Can shoes be the villain if you don't have the right shoe for the way your feet are?

Dr. Kelikian:
Yes. They can be, yes. You know, when we first came on this planet nobody was wearing shoes, and I'm not advocating not wearing shoes, but I mean a lot of the long distance runners, especially in Africa and things like that they barely have anything on on their feet. And you see a lot now there's the fashion or the popular thing is these very thin layer shoes that you're using more of your foot muscles. But say you have a deformity, everything is a bell curve in life, you know, like the Liberty Bell. And at the top of that bell, you know, it's, quote/unquote, normal, but the whole bell curve is normal, and there's people at each end of that curve who are going to be a little bit different. They're going to have a really high arch, which really is not a good thing. There's more orthopedic foot and ankle problems in high-arched people than a flat-footed person. And I use those terms because when we use the terminology I have a pronated foot or a pronated heal it gets all mixed up, and we get into antics over semantics and what word to use. So I think it's just simpler I think even for physicians to say it's a high-arched foot or a flat foot. Then
we can break it down from there. Oh, he's a pronator or a supinator, all these fancy terms the runner's magazines use.

But if you have a very high-arch foot you need something to accommodate that, and certain shoe companies, I'm not going to say their names but most runners know about this, will have shoes modeled in such a way, if you have a very high arch it will be more of a rigid shoe and a different type of platform, and it will compensate for you. So if you are an avid runner you probably would be better off going into these shoe stores, doesn't mean you have to buy them there, and checking out the different styles for different types of foot anatomy. And a lot of these people are fairly educated, selling you stuff and know what's going on when you go to the specialty stores. Might go somewhere else for a discount, but it's your business.

**Selecting Shoes**

**Andrew Schorr:**
Yeah, there you go. I do have a question for you, though. Sometimes it's been suggested that you need to get like a cast of your foot, and I guess you'd call it an orthotic, but there are also in some of these runner's stores, for example, various inserts. What's your sense about how much money we should spend to try to have the shoe fit and be right for us, not just the selection of the shoe but whether we stick something inside it.

**Dr. Kelikian:**
Well, it depends on what type of problem. And I don't want to jump on your hotline but say you have plantar fasciitis, which is a problem with the strap muscle on the bottom of your foot. Very common. Three or four million people get it a year.

**Andrew Schorr:**
I've had it.

**Dr. Kelikian:**
So was it self-limiting for you?

**Andrew Schorr:**
Oh, yeah. It was painful and it would vary by time of day. When I'd wake up in the morning I'd get out of bed and it was painful to walk.

**Dr. Kelikian:**
Right. For that type of a condition, most of the literature, evidence based, you know facts versus fat, also has shown that the soft inserts, the over-the-counter inserts, the kind that the doctor may dispense in his clinic, not something you can have custom made for $300, probably works just as effective for most people. So there's nothing wrong with these over-the-counter inserts to accommodate your foot for certain problems. It doesn't mean everybody should get one just to have
one. If you're having some type of a problem or have some type of a deformity, then some type of, orthotic device is the proper pronunciation, it's an adjective, orthotics; the orthotic device or the foot insert would be appropriate. But I wouldn't just do it across the board.

And the custom one, meaning you're going to get a casting of your foot, if you have a fixed deformity, meaning something is crooked and it doesn't move, you might have to go more custom on that type of thing, and you'd get a healthcare provider's prescription for that.

Andrew Schorr:
I want to talk to you about another what could be a more catastrophic injury, and that is the Achilles tendon. You hear about people having ruptured Achilles tendons. How do you know when it really needs more intervention? Help us understand the Achilles a little better.

Dr. Kelikian:
We know who Achilles was, from the Greek mythology. You know, his mother dunked him in the river but her hand was on the back of his heel. And the tendon is the end of the muscle, your calf muscle, and it comes down a small rope about a half an inch thick, not even that, and it comes down to your heel. You can feel it on the back of your heel right now if you would rub there, which I'm doing. And usually we see people have pain, discomfort. It will get swollen. They'll have what we call tendonitis or inflammation of the tendon. Most people that rupture their tendon, it snaps in half, acutely, meaning right away after an injury, it will usually be when their knee is straight and their foot comes all the way back like stepping on to a curb and your foot comes back towards your face, or jumping in basketball and your foot comes back.

And the patients will usually say to you, I felt the snap or a pop. It's like somebody shot me with a gun or a bow and arrow in the back of my heel. And it wasn't that painful. It hurt for a second and then got better. It's the most important muscle in your leg to walk, especially going up and down stairs. It provides all your push-off when you get on your tip toe. And usually if you feel back there, if you rupture it you'll feel a little gap. There's a reflex we do, it's called the Thompson Test, where a patient is on their stomach and we squeeze on their calf, and you can tell if the foot moves down then, or towards the ceiling because you're on your stomach, then you're okay. It's a negative test. But if it doesn't move then you've got a problem, and it needs attention, either a cast, prolonged casting or surgery for that kind of thing.

And I've had so many, in all due respect to my colleagues, I've had physicians, not orthopedic surgeons but surgeons, that had these happen, didn't think much of it and then they come in three or four months later with this rupture, which is a lot
harder to take care of. We have to do more of a elaborate reconstructive procedure for that. But you’d be surprised how many healthcare professionals have this injury and kind of just forget about it or blow it off.

**Andrew Schorr:**
Wow. Well, I think in our next segment we're going to take this a little further and say, well, how do you know when you need to be get something evaluated? How are things evaluated? What tests might be needed? And then what are the various interventions? Is it rest? Is it a cast? Is it surgery, like we heard with Eddie Bluemel. So that's all coming up as we continue our discussion with someone who really knows, Dr. Armen Kelikian. And we invite your calls, 877-711-5611. Or an e-mail. We have received some questions, nmh@patientpower.info. We will be right back.

**Treatment**

**Andrew Schorr:**
Thank you for joining us if you're listening live to our live webcast. We do these webcasts every two weeks sponsored by Northwestern Memorial, and it connects you with leading experts, the whole calendar of what we're up to and what we've done for quite a long time now is in the ihealth section of nmh.org. And today we're discussing sports injuries of the foot and ankle, and we're visiting with Dr. Armen Kelikian, and again you're welcome to send us a question if you have one.

So, Dr. Kelikian, there we were, we talked about you just gave the example of some doctors, not orthopedic surgeons, as you said, but doctors who had an Achilles injury and it became a little more complicated as they waited to get care. Take us through how you decide what care to give. And I know it varies greatly by the different injuries, but give some examples and what are some of the crossroads of whether you treat it one way or whether you take it to surgery.

**Dr. Kelikian:**
Okay. Well, you have both options, and it depends on the situation, the patient, and what their expectations are. You were asking me before how would a patient now. They're going to complain of pain, difficulty walking, stairs and some swelling. And they'll usually tell you the mechanism, meaning how did it happen. Usually it's, like I said, a fall or you're jumping. You miss a step, your foot goes back on you, a sudden what we call dorsiflexion or toes going towards your nose. And when you look at them they'll have a limp. The other thing we notice, the audience may remember this, it's called a hatchet strike defect. You know, when you hit a tree with an axe you have a little defect there or a divot. And you're going to feel a divot back there on yourself. I'm not telling you to diagnose it, but you'll feel a little step off. You won't feel that rigid tendon, and the test I told you about.
Now, it's either ruptured or it's not ruptured. It doesn't happen half way or something like that. You can have a partial muscle tear but the tendon is either ruptured or it's not. And when you put your foot down if the gap between the ends of the tendon is less than three-eighths of an inch, we say a centimeter--and we can tell that by we can do an ultrasound like you do when you pregnant for the baby. We can take a little probe over there and check that. You could probably go with nonsurgical management with casting, it's prolonged casting for about ten weeks, and people do well. If you're very sedentary, meaning you don't do much, you play occasional tennis, you're 55--I don't even want to use age anymore because there's people older than me that are more active than I am and it's not fair--but if you have a very sedentary lifestyle you might go with the nonoperative route if you would fit into the classification I just said about the gap. But the chance of it happening again is probably about 10 to 15 percent. You can rupture it again because it's a little weaker type of healing.

With surgery we do it two ways. We make a small incision, minimal incision surgery, maybe two inches, inch and a half, and we're able to pass certain instruments up there and tie the ends of the tendon together in the right position. Or we do it open with maybe a three-inch incision, and we use this very strong suture material like it's not quite rope, but it's pretty strong. And we tie the ends together, and then after that we immobilized you for about two weeks in a half cast or a cast, and then we put you in a special boot, and we don't let your heel come all the way up. And you go through physiotherapy. The recovery on an Achilles tendon can take six to nine months to totally recover.

Somebody surveyed once NFL players, I think 30 percent of them never came back to their previous position after a rupture of the Achilles tendon. There are some famous people, I'm not going to say names, that have had this and it mostly just doesn't heal right, or the tendon doesn't heal at the right what we call resting length. It could be just permanently weaker, but generally the surgery, the results of the surgery is within 90 percent of normal and people did very well with it. And if it was for me, I'd want the surgery only because I want to be walking on it sooner so I can do my job. Not because of any sport endeavors or anything like that. So I'm not super active, I bike, I play a little tennis, but I'd want the surgery for myself. I give the patient their choice at the consultation. If it's within reason to do it nonsurgical most people end up going towards the surgery.

Now, if there's a risk patient, heavy smoker, diabetic, a lot of other what we call comorbid factors, you might go more toward that minimal incision or no surgery because you don't want to run into the potential complications or problems.
Stress Fracture

Andrew Schorr:
Now, we mentioned along the way, you mentioned stress fractures. I know sometimes they’re not picked up, but if they’re not then as you said it can become more serious. So how do you identify if there’s a stress fracture going on and then what do you do about it?

Dr. Kelikian:
Usually, assuming the patient can feel, they have what we call a nerve problem like with diabetes or something, they’re not going to show any abnormalities. It’s not going to be that swollen. It’s not going to be deformed or crooked, and pain is the primary indicator. People who get a stress fracture might have some dietary changes, changes in their shoes, change in the level of their activity, they’re doing a lot more. It actually used to be call a march fracture because of the recruits going into the Army and marching much more than they usually did back home.

And in the foot the most common one is your second metatarsal, which is where your instep is, but in line with your second toe, the big toe would be your first toe. And the second and third metatarsal are the most common. We do see it also on the outer aspect of your foot, the fifth metatarsal, and when you get a stress fracture there it’s something that’s very slow in healing. It’s called a Jones fracture, a guy’s name from 1906 who first saw it on an x-ray on himself. He got it from dancing. And those might need surgery. The other ones I said, on the top of your foot, they just need to be treated with rest, a stiff shoe and time. If you’ve got a stress fracture of your second metatarsal, Andrew, I’d probably keep you off running close to six weeks. I’d let you do other stuff, maybe biking, swimming and things like that, but I wouldn’t let you do any impact where you’re putting four times your body weight when you’re running on that bone.

Now, going to the tibia, a little more serious, the leg bone. When it’s your hip it’s really serious. So it just depends on the location.

Andrew Schorr:
Right. I wanted to touch on that. You told me on the phone yesterday, we were chatting and I said what’s the number one question you get. And if I get it right you said, Doctor, when can I play golf again?

Dr. Kelikian:
Right.

Andrew Schorr:
So for any of us who are active, whether it’s golf or whatever, we want to be active again. There may be some activity like golf we really enjoy. It’s in our blood. But I know you’re a big believer in cross training, so if you say, well, Andrew, you can’t run for a while, it doesn’t mean that we can’t exercise.
Dr. Kelikian:
Correct. And I think it's interesting when I talked to Ed earlier he said, quote, My foot feels great but the rest of my body hasn't caught up with me. And this guy has been getting pretty good intense physical therapy. He's in great shape, you know, A professional type athlete. And even coming back from any injury you've got to think about the rest of your body too being in shape, whether it's the other bones in your other foot, your upper and lower extremities, your arms and legs, and your cardiovascular system, your heart and lungs.

So there are other things you can do. Assuming you don't have any stitches or something like that, you can be swimming. You can be biking at low resistance. First thing I get people back to as far as impact other than that antigravity machine we talked about or the Alter-G--which I think in Chicago there is only two of them for instance, they're very expensive machines, is something like an elliptical, where you're not putting a ton of impact on that bone in your foot. And definitely you're going to crawl before you walk before you run. You're going to slowly get back into it. Biking is excellent too. With minimal resistance that's a great way to get back.

Injury Prevention

Andrew Schorr:
Right. I did that when I had back problems for a while actually to stop that pounding. Now, let's talk about prevention for a minute. So ideally we wouldn't want to have any of this happen. Obviously if you're playing rugby you know you may get hit or in football or something may happen in basketball, different sports, you twist your foot or ankle. But is there something we can do to try to make our body more resilient? Is it flexibility? Is it strengthening exercise? Is it diet? What are things you recommend, let's say, to team members to try to lower their risk?

Dr. Kelikian:
Certain people, depending on their genes and so forth--your genetics, not your blue jeans--but certain people have tighter muscles than others. In fact people with blood type O, there's some literature on that that they generally have tighter Achilles tendons, tighter hamstring tendons. So if you're tight to begin with, and if you're not sure how to tell if you're tight, a therapist could check you out or screen you, but if you're tight to begin with you could work on stretching that muscle group. You see the runners do the stretch where they're leaning forward on the cooler or on the wall or on a guardrail for their Achilles tendon for instance. You see the baseball players in spring training stretching their hamstrings, where they have their knees straight and they're touching their toes bending forward.

So stretching is helpful and also what we call strengthening or isometrics. There's certain exercises you can do to strengthen your calf muscles, your thigh muscles, and various muscles in your foot. So that is somewhat helpful. If you have a specific deformity, like I said about the high arch, there are orthotics that would kind of shimmy your shoe a little bit to put you in a more normal position so all the
load isn't coming on one area. The other preventive thing that is very helpful, they found this in volleyball players especially--these are indoor, not the sand lot because you don't have anything on--but ankle braces in collegiate volleyball players, these strap-on braces with crisscross Velcro bands, have had a preventive value in preventing significant ankle sprains.

So I think stretching, conditioning. There's dietary things you could do. You don't want to get soft bones and so forth. Certain people, more women than men, at certain ages around menopause, your bones could be weaker, and if you screen for that through your physician with a DEXA scan, a bone densometry. If you have weak bones you might be on medication to prevent stress fractures in that case.

Andrew Schorr:
One other question for you. I have said time and time again with your colleagues on these programs that America has a weight problem. Given that a not insignificant percentage of the population is obese--yet people try to be active or as I said at the beginning of the program go on vacation and they say or, you know, New Year's make a resolution they're going to be more active than they were--how much of a problem when you talk about load is those of us who are overweight, putting that load on the feet?

Dr. Kelikian:
It's a major issue. For every pound I lose you or you lose, it's four pounds to your foot or ankle. It's such a small area. It's like the elephant, not you, but it's like the elephant in the circus standing on the little step stool, all that weight on that one thing. And when you're running you're taking anywhere from four to depending on how fast you run, eight times your body weight on that one structure. You know, when you're running one foot is on the ground alone for a good part of the gait cycle, both feet are on the ground, and it's taking a lot of the load. So if you lose one measly pound it could be four pounds to your ankle.

And people with arthritis, for instance, in their knee and ankle, there have been a lot of studies out that a lot of their pain goes away even though they still have some arthritis, but the weight loss makes a huge difference in how they can function day-to-day. The more you gain the more load is going to be on that joint and the more it's going to hurt. It's just pretty black and white, common sense. So that's a great point you bring up.

Andrew Schorr:
Yeah, thank you. Well, we have a lot to work on together, but hopefully we can prevent some problems, and we've been learning about various treatment options.

If you're listening you say, well, what a great doc, and he is, Dr. Armen Kelikian, with him and of course the other experts at Northwestern just go to www.nmh.org. You can look them up right there and arrange for an appointment.
We have more to come as we continue Patient Power on our live webcast. You can send us a question. We're going to fire a couple that we received for Dr. Kelikian. But you can write in nmh@patientpower.info. We'll be back with more sponsored by Northwestern Memorial Hospital.

Andrew Schorr:
As our announcer said, we do this every two weeks. So on August 12th at this time we're going to tackle "Sleepless in Chicago." And you know America has lots of health issues that come up but one of the most common for us all sometime in your life is sleep problems, and certainly people in Chicago and around are no different. And so when do you need help? So we'll have a leading sleep expert from Northwestern Memorial. And not just sleep apnea but a variety of issues, and you'll be able to ask your questions. So that is in a couple of weeks, and you can send in your questions right now if you have questions about sleep problems, and it's always nmh@patientpower.info.

Let's continue our discussion. We did get some questions in, Dr. Kelikian. Here's one from Jeff from Naperville, Illinois, and he says, "Is there any good way to avoid getting shin splints while walking?" So he may not be a runner, but what about just getting them from walking? How can you avoid it?

Dr. Kelikian:
Well, one thing if you have a heel that's either too far in or too far out--the lay people would say I have a pronated heel means your heel goes out away from your body, flat foot is another good name--some type of orthotic support, putting a little wedge, like a felt wedge in your shoe, Jeff, on the inside will take that excessive torque which puts a pull on the posterior tibial tendon and muscle. Stretching before. I think the best stretch would be taking your foot, like you'd be standing on one leg, I'm doing it myself now, it would go behind you and then you'd push your foot out away under your body. So it would be a plantar flexion, downward motion and outwards. It would be just like a ballerina but it's going to go out instead of in.

Avoiding real hard surfaces and a lot of hills, things like that would probably be helpful as well. Assuming it is shin splints comes with increased activity. And if it does flare up maybe take a couple days off on the long walks or just limiting the length of your walk until you slowly build up. Also, if it does bother you can take a nonsteroidal over the counter such as Motrin or Advil or Naproxen, which is Aleve. So those modalities may help and if it bothers you afterwards you can ice it as well. Did that answer the question?

Andrew Schorr:
No, it did. And you mentioned ice. But I haven't heard anything about heat. Does heat come in at all when we're feeling we've had an injury out there when we've exercised?
Dr. Kelikian:
No, I wouldn't use it right away. Now, there have been some studies where you do alternating ice and heat. You see examples of the Scandinavian. They're in the hot tub and then they jump in the snow after they're in the hot tub with their bathing suit on and so forth. But you can do alternating soaks. In other words, a little cold ice water for about 30 seconds and then warm water. It's called contrast baths, and you can go back and forth for about five minutes, and that does make a difference. But I think a good bag of ice or a bag of peas out of your freezer, and you wrap it on with an ace bandage and you can keep using it. I wouldn't cook with it later on, but that can help do it. It conforms more to your foot or leg rather than just a bag of regular ice.

Andrew Schorr:
Erika from Chicago wrote in. She wanted a little more clarity. You were talking earlier about having the running shoes that are right for you, and I think you were suggesting you might go to the higher price store to get some guidance. Whether or not you buy the shoes there, that's your choice. What she does is she says she just--she's trying to determine the best one, and she just tries them on to see which is most comfortable. But it's really more than that, isn't it? Because when I've been to one of those stores and they actually watch your gait to see the way your foot is during that gait. It's more than just how it feels when you're just sitting there, right?

Dr. Kelikian:
It's how it feels and also how does it accommodate your type of foot, whether it's a high arch or a flat foot or a normal foot. So I think if it's very uncomfortable with just walking in the store then it's probably going to be uncomfortable later on, so that's probably a good acid test as she said. But you looking at how you walk and do things is helpful too and what your foot looks like.

Andrew Schorr:
Yeah, I know some of these running shores have all these kind of tests and foot pads and things like that, but I found it to be helpful. I know shoes make a difference for me. And just as we get close to the end it's kind of, when to really get care. Now obviously it would seem like that Achilles rupture, do not pass go, you really want--but these things that persist. And let's say you go to your doctor, internist, and they say, well, nothing shows up on the x-ray, but if you continue to have concerns, when do you sort of escalate it, Doctor, and you maybe ultimately wind up with a specialist like you?

Dr. Kelikian:
I think that most of what we treat whether it's surgical or nonsurgical if we're seeing you within the first--assuming you can walk on it and stuff like that and you're reasonable in taking care of it and backing off on your hobby at that point, you know, if you see someone within four weeks of most of these injuries they can still be adequately treated, even if it's a ruptured Achilles or a Lisfranc injury like
our patient Eddie had. You know, the sooner the better, but most of these things are not devastating in the foot. You can get to most of these in the first four weeks or so.

So you're originally going to see someone who is going to screen it. You might end up in the emergency room with your primary care. And the x-ray could be negative on a lot of stress fractures for three weeks. So you might see him early on, it's normal, it keeps bothering you, you do a follow-up visit. Some of these stress fractures we only see with an MRI scan, but we don't do an MRI scan on everybody that walks in our office. So we use our judgment. If things don't get better after a month or so we're going to the next level of testing. Now, professional athletes, they get them in the next day if there's a question because it's a different type of, it's their job. It's a different livelihood for them.

Final Comments

Andrew Schorr:
We want them back on the field, Soldier Field and hopefully winning but also to have a long career. Whatever injury they've had, it's healed well. I wanted to get--we'll come back to you in a second, Dr. Kelikian, but we did get a chance to talk a little more to Eddie, and I just wanted to play that now to get some final comments from him. Let's hear from Eddie.

Andrew Schorr (on tape):
Let's rejoin Eddie for a minute for a final comment. So Eddie, we've been visiting. We heard your comments earlier. We've been visiting with your doctor. So now people, athletes, weekend athletes, people who have juried their foot or ankle have listened to all this. It sounds like whether you want to compete professionally or in a club or just be able to walk and run is that you have to take these injuries seriously. How good did you feel the care was that you got through Northwestern?

Eddie:
I thought it was great, as a matter of fact. I mean, from day one I think it's hard not to be impressed by Dr. Kelikian. The list of people he's worked with is pretty well known, and it's impressive by itself, but also the people that were working around him I found to be very helpful, and that was just the pre-op stuff. When I got to the hospital, and I actually had another surgery at another hospital shortly after my foot injury and it was unrelated, but it did give me a chance to compare the two side by side. It was within a month of each other. And I thought the personal care and the attention at Northwestern was far superior to that of the other hospital that I went to for my other surgery. You don't remember a whole lot about the surgery when you're on your way out because you've been put under for a little bit, but what I do remember leading up to it was very reassuring, not a very unnerving experience at all leading up to the surgery. So I was very impressed.
Andrew Schorr:
Well, Eddie, Eddie Bluemel, we wish you full health of course and a full recovery and great performance for what your passion is in rugby and representing the United States. On to victory, Eddie, and I hope you'll never have any other injury like this, but we appreciate you sharing the lessons you learned through all this today.

Eddie:
No problem. My pleasure. Hopefully it does help people out there to make the right decision and seek care in a very timely fashion.

Andrew Schorr:
Thanks a lot.

Andrew Schorr (back live):
What a good guy. He's one of your fans, Dr. Kelikian.

Dr. Kelikian:
I called him because I know he's highly motivated and took it pretty seriously, and he pretty much knew his body. He knew something was wrong, like he told you, when he was on the field. A few minutes later he knew something was different. So that's really more important, the history you give your physician just like what about it, how is it bothering you? That's a clue and makes light bulbs go off in our head where sometimes we don't focus. We don't pick up on things, and an educated patient, a patient that knows their body fairly well is very helpful. And again post-operatively someone that's really highly motivated makes it a lot easier, makes us look better than we really are when you have a patient that's motivated and wants to get back and is going to do the best they can do to take care of themselves.

Andrew Schorr:
Thank you. So, Dr. Armen Kelikian, so now you took us onto the field. We have a little insight with what's going on with the Bears, and we wish them all the best this coming season. And hopefully you won't be called out on the field at all or not too much, nothing serious. Thank you so much for helping us understand foot and ankle problems and the various interventions and diagnosis and when to seek further care and prevention too. We really appreciate your expertise, and we're delighted that it's right at the foundation of what goes on in orthopedics at Northwestern. Thank you so much for being with us, sir.

Dr. Kelikian:
Okay, you're welcome, Andrew. Thanks a lot. Have a nice day.

Andrew Schorr:
Yeah, thank you. Well, this is what we do on Patient Power every two weeks, and we connect you with leading experts like Dr. Armen Kelikian. And again if you want
to connect with him or the other experts at Northwestern in any field you can meet a lot of them through the replays of our Patient Power programs and ihealth section, and then you can always go to the ihealth section of NMH and you can always send us an e-mail at nmh@patientpower.info. But you can connect with the doctors and make appointments right on website.

Now, remember, in two weeks we are going to be sleepless in Chicago, or if you are that way hopefully help you get answers to your questions, so send us your question. Thank you so much for joining us on Patient Power. We like to say knowledge can be the best medicine of all. Have a good evening, go Bears, and we'll see you soon. See you in two weeks. I'm Andrew Schorr, thanks for joining us.

Please remember the opinions expressed on Patient Power are not necessarily the views of Northwestern Memorial Hospital, its medical staff or Patient Power. Our discussions are not a substitute for seeking medical advice or care from your own doctor. That’s how you’ll get care that’s most appropriate for you.