

Ep #157: Exploring Your Feet Part 4 – Your Feet: Tibia-Fibula-Foot-Hip Relationship



Full Episode Transcript

With Your Host

Susi Hatelty

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Male Announcer: You're listening to *From Pain to Possibility* with Susi Hatley. You will hear Susi's best ideas on how to reduce or even eradicate your pain and learn how to listen to your body when it whispers, so you don't have to hear it scream. And now, here's your host, Susi Hatley.

Welcome, and welcome back. With this episode, we continue the mini-series on exploring your feet and really exploring the whole kinetic chain. The idea with this mini-series is to highlight something that I find tends to be missing out there in the world of rehabilitation, of corrective exercise, of yoga therapy, really of the world of the feet. Because there's so much focus on the feet themselves and on the lower part of the limb, but not through the kinetic chain.

Yes, there are programs that do talk about building strength and stability through the whole body. But it's in this sort of separated way, I find, where there's lots of great information on the foot itself and on the tissue that connects to the foot from the calf. But then it starts to fizzle off when we're looking at the whole kinetic chain.

And as I've mentioned already in previous episodes, there's this really strong impact between our pelvis and the way the leg bone moves. And then, of course, how that pelvis functions as this platform on which the leg bone moves is impacted by what's going on up in the spine and the ribcage and our breath. And I mean, even our shoulder girdle and our jaw.

So that's really what I'm attempting to do with this mini-series, is to help both draw your attention to the foot itself, and then expand your ability to zoom out a little bit more, and then a little bit more, and then a little bit more. Not losing contact with the foot, but rather seeing the relationship of the whole. Knowing that, as we like to say, the whole is greater than the sum of the parts.

We do need to do work on the foot itself, and we need to bring it into the context of the whole. When we do that, at least what I'm finding with my clients anyway, is when we do that, so much amazing change can happen.

[From Pain to Possibility](#) with Susi Hatley

Ep #157: Exploring Your Feet Part 4 – Your Feet: Tibia-Fibula-Foot-Hip Relationship

And that's what this mini-series is about. And then, if you really resonate with this and you want to take it deeper with me, I'm running the Power of Pure Movement series in February. February 14th, 15th, and 21st. It's a three-day session, six hours of teaching time. Plus, follow-up between the 15th and the 21st.

And you can always ask me questions via email. I'll be there for you. And I really just want to help people take their understanding of their feet and their experience of their feet with their whole body to that next level. And you can read more about that at learn.functionalsynergy.com/feet.

Okay, so with this episode, where I want to play is talking about the tibia and fibula relationship and its relationship with the foot. And then take you up to the hip again. So I'm going to divide this into three sections. The first is to talk about the skeletal relationships here, as well as the muscular relationships. And then, I'm going to walk you through a practice to help bring this more to life.

Now, the practice will also be in video format. So if you want the video of the practice, then do go to the show notes for this episode, and you can watch the video of this as well. So to prepare you for the practice, I'll be using a yoga block and a ball. So have those handy.

So press pause on me if you'd like, and get those handy. I'll walk you through some basic skeletal concepts, and then we'll move into the practice. And as we enter the practice, I'll share more about some of the myofascia in this area, especially as we go from the lower leg to the foot and then up toward the hip.

All right, so let's begin. When we're looking at this lower leg, and we're looking at the tibia and the fibula, what's really interesting is how these two bones come together with the interosseous membrane in between them that come together and form this amazing structure that enables the transfer of load and weight from the femur into and towards the foot.

Ep #157: Exploring Your Feet Part 4 – Your Feet: Tibia-Fibula-Foot-Hip Relationship

And I say it that way because the tibia is the primary weight-bearing bone. It's a very vertical bone. And the top of the tibia is the tibial plateau, and that forms the bottom of the knee. The tibia also forms the ankle joint. The fibula is a smaller and thinner bone that is attached on the lateral side of the tibia.

And for the most part, it's believed that there's not a whole lot of weight-bearing function to the fibula. However, when you look at it as a whole, the way the fibula connects to the tibia and the interosseous membrane. And I've read some people talk about the interosseous membrane being like shoelaces that bring together two sides of that part of the shoe. It kind of brings together the fibula and the tibia.

I kind of like that idea. But it creates this collective because it's thought that the fibula provides leverage and stability for that tibia to be that primary weight-bearing structure. But it's the two of them working together; they're a really great team when they work well together.

Now, what's interesting about this collective is, and these are the words of my osteopath, actually, because he will sometimes say when there's a lot of limitation, sometimes people call it tightness, it's hard for him to get his hands in there to really work. Like the tissue is not very malleable or not very supple. To him, what it feels like is that there's not a lot of breath in through this lower leg.

And I know that might sound sort of strange because what the heck? Breath doesn't happen through this part of the body. But the idea of like, energy flowing, suppleness, or ease. And when there becomes more freedom, it does feel like there's this kind of dynamic vibrational movement that can then start to happen, which can be perhaps felt like breath in a way.

So imagine the metaphor of breath when I'm talking about it this way. So it becomes kind of cool because if the tissue, if the myofascial tissue in and around that calf becomes super limited, then the way that fibula and the

Ep #157: Exploring Your Feet Part 4 – Your Feet: Tibia-Fibula-Foot-Hip Relationship

tibia work together becomes limited. The interosseous membrane can't do a very good job of being that dynamic tissue between the two bones.

So just, it's really curious because what I find with a lot of people who have foot issues is that their calf area can be really solid, right, and not have a lot of give. And we can get in there, and we're going to get in there today with some balls and some hands and moving stuff around. But when people start to get in there, it can sometimes take some time to enable it to become more easeful and more supple.

And what I've seen over the course of my career of almost 30 years is what's so interesting is this relationship between this hardness and sometimes this concreteness of the calf and hip function. And when that calf starts to gain some more suppleness, interestingly enough, so does the hip area, and there's just greater responsivity to that hip and the pelvis area. And the whole chain works with a lot more fluidity if I can use that word.

So it becomes really interesting. I remember first really seeing this when I was working in Vancouver, and a lot of clientele coming through the pain clinic I worked at were also cyclists. And when we started to tie these pieces together and help people connect between the calf and the ankle, and the hip, some really cool stuff happened with the way that they were able to really have propulsion through their pedal stroke.

And then from there, I started blending it with skiing and with running and starting to see more and more interesting relationships, especially with people we were seeing who had a lot of persistency of pain, and the pain started to really, really shift. So it's an area that I'm hoping as I describe it this way is getting you interested, perhaps, if I can use that word, in what's possible as you work in the area.

And but, if I can use both of those words, what becomes very curious too, is that sometimes it takes time for the area to really become supple. I'm not going to say let go. But it's more like suppleness.

[From Pain to Possibility](#) with Susi Hatley

Ep #157: Exploring Your Feet Part 4 – Your Feet: Tibia-Fibula-Foot-Hip Relationship

And one of the reasons is because, especially if you're someone who's got a lot of foot issues or you've sprained your ankle a lot, there tends to be a stabilizing force, a compensatory one at that, not a great one. But still a stability force, nonetheless, that there's a lot of work done in this calf to mitigate and manage for where things ought to be stabilizing but aren't, i.e., the hip or, i.e., the foot.

So that calf can do a lot of work it's not really meant to do, which then keeps adding on these more layers of concreteness on more layers of hardness if I could say that that way. In the way that I'm describing this, I realize I'm using a lot of words like if I could say it that way because, really, there's this feeling that clients experience and that I can see in them from this kind of contextual standpoint.

They might have some decent range of motion in their ankle, but the soft tissue of that calf is really limiting the way that force is moving through the whole limb and then transferring through that foot. So it's interesting, right? It's a really interesting area to explore.

If we look at the muscles that are connecting to these bones, we're looking at the semimembranosus, and that's coming from the hamstring arena. We're looking at the tibialis anterior, which is on the front of the tibia. We have the sartorius, the gracilis, and the semitendinosus. We also have the soleus muscle as well as the popliteus. So we're getting muscles that are both above and below the knee.

So you can kind of get like the forces and load that's transferring from the upper part of the limb, down through the knee, and towards that ankle. Like it becomes very curious to recognize how the tibia plays out in the movement of force and load through the lower part of the body.

When we look at the fibula then, we see that the biceps femoris attaches to the fibular head. There's also the peroneal longus and brevis, which attach to the lateral side of the fibula. The extensor digitorum longus and the extensor hallucis longus also attach to the fibula, the medial side. And then

Ep #157: Exploring Your Feet Part 4 – Your Feet: Tibia-Fibula-Foot-Hip Relationship

we have the peroneus tertius, which is a small muscle, which is on the front side of the leg and attaches to the fibula as well.

So there are a number of different muscular attachments. So when we kind of zoom out a little bit and bring all that together and then go deeper and sort of get this idea of the complex of the tibia, the fibula and interosseous membrane, how the skeleton works to enable force and load transfer, and then seeing where this tissue is and how the tissue functions, we start to get a, I think, a greater understanding of the impact of the way the leg functions and what happens with the foot.

As we move into this practice, I'm going to be guiding you through a series of instructions around connecting with your foot, utilizing a ball for self-massage, and coming into a variety of movements just as a test and as an experiment. At any point, if you're feeling like things are feeling stiff, or you're holding your breath, or you're gripping or holding tension, then please back off.

If you're finding that my instructions, from an audio perspective, need a little more clarity, I have done a video for you that can be found on the show notes, which is the instructions but also in video format so you can see what I am doing.

Above all else, you know your body best. So honor your body, and please do not continue the practice if it doesn't make sense for you to do it. Okay? So with that, let's get rolling.

We'll begin by first noticing a baseline. So come up into standing and notice your feet on the ground. And feel the center of your heel, the ball of your foot, and the base of your pinky toe.

And from the standing position, begin to lift your toes all off the ground and notice what it feels like to do that. And then let your toes come down. So notice what it feels like through the bottom of your foot, the top of your foot,

Ep #157: Exploring Your Feet Part 4 – Your Feet: Tibia-Fibula-Foot-Hip Relationship

through the ankle, the lower leg, up through your thigh and into your pelvis and your back and your jaw and your ribs.

Just notice what it's like to lift your toes and if you can lift your toes, because I know that some people won't be able to lift the toes. So notice what you're doing as you're lifting them or attempting to lift them.

Okay, now from here, step one foot back into a high lunge. So the knee is not coming to the floor. And notice what that feels like. And then come back and step into a high lunge on the other side. And then come back to standing. Notice what you now feel in the standing position.

Okay, so now we're going to begin by doing a little bit of self-massage on the inside of the lower leg as well as the outside. We'll begin with the inside. And you can do this in a sitting position, bringing the ankle to your knee, or you can do it in the lying down position bringing the ankle to the knee. You'll notice where the medial malleolus is, which is the ankle bone on the inside of your ankle.

And place your thumbs down by that medial malleolus and then press into the side of the lower leg. You're on the inside. And as you press in, you're going to bump up against the tibia. So you're going to feel the tissue underneath your fingers. And some of it may feel a little bit limited, and some of it may feel supple. Just get a sense by moving your fingers or your thumbs, depending on what you're touching against your skin. Moving that from the malleolus up toward the knee on the inside of your leg.

Okay, and then switch over to the other side. So you're on the opposite leg, doing the same thing, following from the medial malleolus on the inside. The sticky-outy of the ankle, ankle bone on the inside of your leg, and you're moving up, following the tibia up towards the knee and just feeling what you feel.

Try not to like dig in here. Allow your fingers to notice what the sensation is in terms of the suppleness of the tissue. And as you press in, notice where

Ep #157: Exploring Your Feet Part 4 – Your Feet: Tibia-Fibula-Foot-Hip Relationship

you feel any other changes elsewhere. I notice that as I'm doing this right now, as I come closer to the medial malleolus, I feel some freedom actually in the bottom part of my foot. And then, as I move up towards the knee, I can feel a little bit of tightness around my calf. The suppleness and just the quality of the tissue changes as I move up that inside portion of my leg.

Okay, next, we're going to grab a ball, which can be a tennis ball or a massage ball. And then, sitting on your bottom on the ground, you're going to place the ball on the outside, the outside of your calf. So along where the peroneal muscles are, where that fibula is. And you're just going to gently do one of a couple of things or a combination.

You can either roll the outside of your leg along the ball or the ball along the leg if you're unable to do that because that's going to require you to lift your hips and move your weight forward or down towards your foot and then back. So you're rolling the ball on the leg, you can just place the ball at different points on that side of the leg and just notice where the tender points are.

And spend some time maybe moving the leg a little bit back and forth on the ball, just getting a sense of where some of those points that are tender, some areas that could use a little bit of love. And while you're doing it, remember to breathe and only go as hard as it still feels easy. And then come on to the other side. So you're bringing the ball to the opposite leg. Just get a feel of the distinction between the left and the right sides. Lovely.

All right. So now, from here, let's come back up to standing. And now, notice yourself standing, feeling the three points on the bottom of your feet. Notice if there are any new things you're aware of. Maybe how you're standing on your feet, how you're feeling your feet, how your legs feel. And there might be a change, or there might not be a change. Your weight may have shifted or not shifted. The key is just to notice what's now present.

And then, from here, lift your toes and then drop your toes. And as you lift and then drop your toes, does anything feel different? Okay, and then from

Ep #157: Exploring Your Feet Part 4 – Your Feet: Tibia-Fibula-Foot-Hip Relationship

here, step back into a lunge. And then, step your foot forward and then step back with the opposite foot. And you might notice how the back foot, as it steps back and lands on the floor, might feel a bit different through the forefoot of your foot. All right, lovely.

Okay, so now we're going to use the block, and you're going to place the block in a specific point on the bottom of your foot. So it's going to look like a version of a calf stretch. So if you were going to place the forefoot of your foot on the block and then bring the heel towards the ground, it's not going to be quite like that, but sort of.

So you're going to take the corner of the block, and you're going to place it in between the first and the second metatarsal. Now, to find the first and second metatarsal, look at where your toes are and see how your toes are attached to the forefoot. And if you bring your thumbs and your fingers around the forefoot, work with the thumbs, and just palpate around your foot, you'll feel the bones that lead up towards the toes.

Now, those bones are your metatarsals. And just feel where each metatarsal is and how it connects up to the toes. And you can use your thumbs, or even your fingers just to get a sense of the tissue on the top side of your foot, the dorsal side of the foot, in between those bones. You're not lifting the toes here, your toes are relaxed, and you're just getting a sense of the tissue between those bones. For some people, this can be quite tender.

Okay, so this is the dorsal side or the top side of your foot. Okay, now, bring your fingers so that you have your thumb between your first, your big toe, and your second toe, and then bring your index finger and your middle finger around to the bottom side of your foot, so you feel the space between the metatarsal, but on the bottom side, that's where you're going to place the block.

Okay, you're in the corner of the block between those two metatarsals, between the first and the second toe, the big toe, and the second toe. And

Ep #157: Exploring Your Feet Part 4 – Your Feet: Tibia-Fibula-Foot-Hip Relationship

then you're going to bring the heel to the ground. So you're going to find that your forefoot might want to kind of round around that corner. Now some people, if you've got feet that are a bit stiff, it's not going to want to do that. The toes and the forefoot might just stay a bit stiff. Other people will find that it kind of moves around that corner.

And then let your heel start to come towards the floor. Now, sometimes people find that the yoga block, some of the corners of the yoga blocks are too round, and they're not quite pokey enough in terms of feel. So coming on to a book with an edge can sometimes work. And then, move the corner of the block between the second and the third metatarsals. Do the same thing. Let the heel come down. And then move over between the third and the fourth. And then the fourth and the fifth.

Your heel is dropping toward the floor, so you're getting a bit of a calf stretch, along with this pressing between the metatarsals and letting the metatarsals spread away, one metatarsal from the other. Okay, good. And then let that go. And now, come back into standing, having done the one side, and notice what your foot feels like. And notice what your calf and the relationship between that tib/fib feels like.

For some people, they start to feel more energy, more breath, and just some better movement in through that lower leg. And sometimes, they feel the way the leg bone is connecting to the pelvis, it just feels a bit different.

For some, the pelvic placement changes from being an anterior or posterior tilt into something more neutral, where there's just a greater length between the pelvis and the ribcage. Now, by no means do I want to try to have that happen for you. It's more what people's experiences have been that they've expressed back to me.

So let's do the same thing on the other side. So first off, connecting into where the metatarsals are. So noticing the toes, and then coming onto the forefoot and just feeling for that space between those long bones that lead up to the toes and feeling what's in between the first, the big toe, and

Ep #157: Exploring Your Feet Part 4 – Your Feet: Tibia-Fibula-Foot-Hip Relationship

second toe. Like the metatarsals that lead to the big toe and the second toe. And then second and third, and just get a feel for what that tissue between the metatarsals is.

And now that you know what we're doing, you can even take your fingers, so your thumbs are at the top on the dorsal side, and your fingers are on the bottom between the metatarsals, and just kind of get a feel of how does that foot feel? How supple is it?

And remember that the muscles on the bottom of the feet, there are intrinsic ones that are local to the feet. And then there are ones that come up alongside the calf, and we named some earlier when I was talking about the attachment points to those lower leg bones. And so when we are working with the foot, that's one reason why we can feel this change-up in the tib/fib area.

So when you're ready, take the corner of the block or the corner of the book or the corner of that which you're placing between your first and second metatarsal. So the metatarsal that leads to the big toe and the second one, place the corner between those and let the heel begin to gently drop. And notice how the forefoot responds to that.

And then, when you're ready, move to the second. So you're between the second and third metatarsal. And then between the third and the fourth. And the fourth and the fifth. All right, lovely.

Now from here, stand again. Notice what your foot feels like. Notice what that lower leg feels like all around the calf. Lift your toes and lower them, and notice if there's anything new or different. And then step back into a high lunge. And then switch sides. And then come back to standing.

And now notice what it is that you're experiencing through your feet and through your calf. Now, sometimes when people do this, some people feel really light and like that breathability that I was talking about earlier. The energy flow through the calf area can feel very like it's a very palpable feel.

Ep #157: Exploring Your Feet Part 4 – Your Feet: Tibia-Fibula-Foot-Hip Relationship

Some people call it to ease. Some people call it suppleness. Some people call it lightness. There sometimes can feel like more length up through the leg.

And again, as I've mentioned, pelvic placement can change for some people. Their breathing can start to shift. How they move through their hips might start to change. And for other people, they start to feel just how limited they are. So that's the awareness they gain.

Other people feel pain, and it's unexpected, or they go, "Huh, interesting, maybe I worked a little too hard to move through that stiff area." So now the awareness has been, okay, that area of stiffness was something I ought not to have moved through. So it's really kind of tuning into noticing and being aware.

And if you would like to take this further, you can come back to a wall sit. So you'll be in standing and then bring your back to the wall. And then come into a very small wall sit. So moving through the ankles, the knees, the hips. And with the hands on the outside of your thighs, press your legs into your thighs.

So you're pressing wide. So the hands are on the outside of the thighs, and you're pressing wide, but your hands are providing enough resistance that your legs don't go much wider than the hip joint. The movement is quite small.

And just notice what goes on with your toes, your feet, and your calves. You might notice here how the arches of your feet lift. You might also notice that you are limited through your calf, and you might grip through your toes or hold through your feet. It's all kind of curious, right? And then, when you're done with that, slide on up and notice what you notice.

So as I've mentioned, this will be a video that you can find in the show notes. So if you want to actually watch me doing this, then please visit the episode website. And overall, have a great, great time exploring.

[From Pain to Possibility](#) with Susi Hatley

Ep #157: Exploring Your Feet Part 4 – Your Feet: Tibia-Fibula-Foot-Hip Relationship

And if this really resonates with you and you want to take this a bit deeper and explore the concepts of your feet, through your calf, through the knees, up through the legs, through the hips, and really the whole kinetic chain, then I invite you to join me at Power of Pure Movement: Strong and Supple Feet at learn.functionalsynergy.com/feet. It would be a real honor to work with you. Have a great, great time exploring. We'll see you next time.

If this episode has resonated and you're looking to deepen this idea of getting your body back on board, of listening deeply to your symptoms, of listening to the whispers, so you don't have to hear the screams, and you're looking for one to one support or professional training, then reach out to us at health@functionalsynergy.com where we can customize your learning path. That's health@functionalsynergy.com. Looking forward to hearing from you.