# Ep. #381 - The Hidden Power of the Big Toe


Full Episode Transcript

With your host:

Susi Hately

From Pain to Possibility with Susi Hately

Introduction (00:00.00)

You are listening to From Pain To Possibility with Susi Hately. You'll 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 Hately.

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Welcome and welcome back. I'm so glad that you're here because today we start a three-session miniseries on the foot, and this is all a lead up to the Power of Pure Movement: Strong and Supple Feet that I'm running this July.

With this series, though, I want to focus in on three particular areas. Today's episode is gonna be on the big toe, how this relates to some, perhaps some of that chronic tightness in the upper calf that can happen, or glutes that don't fire.

Then we're gonna get into the peroneals, and we're gonna finish up with the pinky toe in episode three. The whole idea here is to give some context. There's a lot of great trainers out there who speak directly to the foot, and they've got really great, great work around the foot.

And the people I see who have taken those trainings but their feet still have not improved, it has nothing to do with those courses that they've taken. They've got all the things about their foot. They know what to do. But the issue actually isn't in the foot anymore. The issue is somewhere else in their body.

So when we start to really connect and correlate, say, big toe to hip, for example, we start to see how important understanding the whole of the body function very, very deliberately and specifically, how that impacts the foot and how the foot impacts that.

So when we start to become more movement detective-like and curious about the way our body parts move, that can really open up our awareness to what's really going on and to help you and your clients get to the next level.

So that's what we're gonna do with this miniseries: go zooming in to an area and zoom out to see how we can look at and explore areas of tension and tightness in your body.

Because, as you know, I have really two key focal areas in all of the work that I do, and one of them is that, in arenas of persistent pain, a big reason for my clients about why pain stays persistent is because we're not actually addressing the problem that is. That's why they come. They've done all the things, and it still hasn't improved.

And what I do really well is help people become aware of what's going on in their body and then do something with that new awareness. And then they recognize, "Ooh, it's that thing that I wasn't aware of that was consistently making the situation persist."

Because ultimately, we can't change what we're not aware of.

The second is that tissue is adaptable, but we need to actually provide the stimulus to shift the tissue. So when we can grow our awareness, when we can recognize what's actually contributing to the experience we're having, now we can facilitate change. And that's what my hope is with this three-part series.

So with this episode, we're gonna dig into the big toe. We're gonna start by talking about the anatomy and biomechanics, and then I'm gonna connect it to the, um, upper calf and perhaps why, in your case or in your client's case, that upper calf is just not letting go despite all of the things, and even how the big toe can contribute to glutes that don't fire.

It's not the only reason why glutes don't fire, but there is something sort of interesting when you start to play into and look at the gait cycle and hip extension and the big toe.

So let's dig in. Let's put on our movement detective hats and zoom all the way down to the inner edge of the foot and focus on the big toe.

And even though it seems small, it does play a huge role in how the whole body stands, balances, and moves. Unlike toes two through five, with each having three bones that can curl easily, the big toe only has two bones and just one main hinge joint.

That means it's not designed to claw or grip like the other toes, but rather its job is to be short and strong and stable, to press down like a, like a flat spatula.

And in that pressing down, it provides support.

There's also the long bone leading to the big toe called the first metatarsal, which naturally angles slightly outward in a healthy foot, and that small outward flare helps to create a strong base for standing and supports the inner arch of the foot.

If the big toe is pushed inward, that support can weaken, and the foot might be more likely to collapse inward.

Under the big toe joint are two tiny bones called sesamoids. These bones sit inside a tendon, and they're actually floating bones. And in that floating, sitting inside of the tendon perspective, they act like a double pulley system.

And in doing so, they improve the leverage of a powerful muscle called the flexor hallucis longus, which runs from the back of the lower leg to the tip of the big toe.

This setup helps the big toe press firmly into the ground and supports the body weight during balancing, lunging, or pushing off the floor.

The big toe joint also has a thick support structure called the plantar plate, which helps protect the joint when the toe bends deeply.

For example, in movements like transitioning from downward dog to upward dog, the big toe must bend upwardly significantly, and as that happens, the sesamoids glide forward to help the joint move smoothly.

So when the system works well, the big toe acts like a strong, efficient stabilizer. But if the toe loses its natural shape and the sesamoids can't glide properly, or the joint gets stuck, or the foot loses support, then the arch might collapse, and the body might have to compensate in ways that can lead to strain or pain.

This then takes us into the gait cycle.

When you walk, your body moves through two phases. There's a stance phase and a swing phase. And as your body moves over the foot, it's quite predictable, right? So the heel lands, and that's when that leg starts to become the stance phase, and the free leg is the swing.

So when the heel lands, your weight rolls through the middle of the foot and then towards the ball of the foot and the big toe. And this happens whether your mechanics are ideal or not.

Now, during the middle part of the step, your foot needs some help staying stable under your body weight, and muscles and ligaments help to support the arch, both intrinsically in the foot, but also deep muscles in the lower leg.

The big toe does not do all the work, but it does act as a final point of support at the front of the foot.

As the heel lifts, the big toe should stay grounded and bend upward, and that motion tightens the tissue under the foot and helps turn the foot into a firmer lever for push off.

Now, if the big toe, though, can't press down or bend well, maybe because it's stiff or squished or not working properly, the body still finds a way to walk.

Instead of rolling smoothly over the toe, it might roll to the side of the foot or collapse inward at the ankle or pull the leg through early using the hip.

So there's ways of compensating, creative strategies, and as creative as they are, truly, they are less efficient. And that less efficiency can become a problem.

We wanna help restore the foot's built-in spring system so the body can become more efficient and rely less on using muscles to force the way through the gait pattern.

This is also why, when there's a big toe problem, it might not hurt at the big toe itself, but rather the strain might show up in the calf or the ankle or the hip, lower back, because those areas are taking over the work that the foot really ought to be doing.

This leads us into the calves and the glutes.

So specifically, if you are someone or your client is someone who's got persistent upper calf tightness despite endless stretching and rolling, then this next little section for you might provide you an aha.

Earlier, I spoke about a muscle called the flexor hallucis longus, which is a primary driver of the big toe. It sits deep in the lower leg, attaching to the back of the fibula. The long tendon runs all the way down the leg, under the foot, and inserts at the very tip of the big toe.

Now, the muscle doesn't do just one thing. Its four critical jobs are that it provides:

Big toe flexion, bending the big toe down to the ground.
Ankle plantar flexion, helping point the entire foot downward at the ankle.
Arch support, acting like a dynamic bowstring to support the inner arch of your foot under load.
Toe off, providing that finer propulsive push off from the ground during walking and running.

Now here's what becomes really kind of fun if you kinda wanna really dive into this.

If this deep muscle is limited, it can directly restrict how the big toe joint moves. Or if the tissue around the big joint itself is limited, it can block the function of the entire muscular structure.

Either way, if it's not working well, our body and brain has to find a creative detour to make up for that lost mechanical efficiency.

So one of the ways is the upper calf muscles, like the big, meaty gastrocnemius. It asks the gastroc to generate more active brute muscular force to move you off the ground rather than letting you rely on that passive elastic recoil of a happy foot.

Over time, this consistent, persistent way of moving can lead to persistent gripping, tight feeling in the upper calf that never seems to go away with standard stretching because the pattern that is being utilized is the pattern that's being utilized.

You're dealing with an overworked muscle that is an output of this pattern.

So it's not really about the calf, but it's the way that big toe up through your whole kinetic chain is functioning.

And in fact, we can take this pathway right up to the glutes.

If you've ever been told that your glutes aren't firing during your walking or your yoga practice, this is where it becomes interesting to look at the context of the big toe.

Now, as I mentioned at the outset of this episode, I'm not saying that glute disengagement is because of the big toe.

There's all sorts of reasons why glutes aren't engaging, and we can free up shoulder girdle, and we can free up twisting. We can improve pelvic stability, and yes, sometimes we can shift what's going on with the big toe.

So in this next piece, I'm specifically talking about the big toe, but please hear this as being one way of exploring what's going on with the glutes.

But let's play around with hip extension, right?

So this is the leg movement traveling behind your body.

And if you think about a normal walking stride, as you step forward with your right foot, your left leg needs to travel backward behind your torso.

And to get that back leg into full hip extension, your back foot has to roll over the ball of the foot and onto the big toe.

The big toe in this case is like an exit ramp for the leg's backward journey, and if that toe is restricted, if the placement is off, or if something in that way is not engaging properly, that might block the exit ramp, and your foot can't roll all the way through its full length, which means your leg can't move into full hip extension.

So if your leg can't move into full hip extension, then the glute maximus is not going to get its opportunity for engagement.

If your big toe is not able to do its task, then the glutes might not be able to do their task.

The glutes aren't receiving the mechanical invitation to do its job.

So then, if the glutes aren't doing its job, the movement still has to happen, so we'll find some version of compensation.

We're gonna find some sort of backup crew to help out.

Now, depending on who you are and your movement patterns that are already in existence, you are going to find your own version.

So some people over-utilize hamstrings. Some people over-utilize their back. Some people hike a hip, right?

There's all sorts of ways that people will work to make the movement happen.

I, I like to call these creative outputs because, truly, in order to get the job done, we will find a creative way to get the job done.

But ultimately, they are muscles and tissue that they're not actually being used appropriately. They're not the prime movers, but they are being forced to do the heavy lifting because that glute never got that mechanical invitation, the glute being offline.

So then they start to become fatigued, overworked, and they can start to feel, maybe they might feel tight, or they might feel strained, or they might feel painful.

So you start to kinda kind of play with, like, if there's this persistency of tightness in the hamstrings or a gripped lower back or an overworked upper calf muscle, there might be a relationship to the way that your leg is moving through that gait cycle.

It may have something to do with your big toe, right?

It starts to become really sort of fun to be able to explore.

These are clues. They're not simply symptoms to get rid of.

But here's what's also fun, is this relationship isn't one way. While a locked big toe can limit hip extension and quiet or even make the glutes come offline, the opposite's also true.

When you improve hip mechanics, your foot can often start functioning better immediately, and that's when I referred to Lisa at the top of the episode, that's what happened for her.

For example, you can improve your pelvic stability. In a gait pattern, your pelvis is the platform on which that leg bone moves. If your pelvis is not stable, then the way that leg bone moves is gonna be limited. You won't be able to get it into extension. You won't give it the opportunity for that foot to roll well.

So maybe there's an opportunity to make better pelvic stability happen or to release a tight hip flexor. And in those situations, that can enable the thigh to travel into extension more smoothly.

And that restored hip extension can create stronger backward pull through the leg, which can more naturally lift the heel. And so it goes, allowing the body weight to roll more cleanly over the front of the foot.

And that could then help that big toe joint to be guided into a better hinge motion that it was built to perform.

So in other words, fixing the engine at the hip could help restore movement down to the foot, right? Just like restoring movement of the foot can help shift what goes on further up.

We're not just focused on the toe in isolation, but rather exploring the entire relationship through the entire walking or gait mechanism so that big toe can meet the ground easily, smoothly, consistently with each step.

Work on the foot, influence the hip. Work on the hip, and influence the foot.

So now let's wrap it up and look at the big picture.

I started by exploring the anatomy of the big toe, looking at it not as a passive digit, but like a spatula.

And we broke it down into how this relates and intimately is wired into movement loops.

When the big toe can't bend or anchor properly, or the foot loses its natural springy recoil, then the upper calf might start to kick in and overwork by utilizing brute force to push you forward, which might influence that persistent gripping tightness that stretching doesn't fix at the top of the upper calf.

And if your toe placement is off and the leg can't fully extend behind you, then that might impact the way the glute is engaging or not, which might force compensatory strategies, the backup crew, so to speak, whatever that backup crew is in your or your client's body, to then carry the load.

And the reality, too, is that this is a fluid, continuous conversation where the big toe can help free up the hip, but then also supporting the hip and pelvic stability can also support the foot to move more easily and fluidly as we move through gait.

And when we wake up this connection, we start to gain a lot more clarity about the clues that are contributing to the way that we are experiencing our body and the way that we are helping our clients.

We become more like movement detectives, right? It's the terminology I'm using where we're not chasing symptoms, but we're stepping back and really seeing the bigger picture and what's contributing to what.

In the next episode of this three-part series, I'm gonna shift the magnifying glass to the outside of the lower leg and go into the peroneal muscles and explore how these lateral stabilizers act

to support the big toe and to manage side-to-side control and what happens when they start gripping.

I hope you'll join me for the next episode. Until then, have a great time exploring.

If this has resonated with you and you are ready to rock and roll to improve your feet or to help your clients improve theirs, come join me in the Power of Pure Movement: Strong and Supple Feet. It's happening this July.

You can read more over at **functionalsynergy.com/feet**.