

Ep. #340 - What Gait Reveals About Knee Pain



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With your host:

Susi Hatelly

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

Introduction (00:00.00)

You are listening to From Pain To Possibility with Susi Hatley. 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 Hatley.

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Susi (00:24.15)

Welcome and welcome back. I am so glad that you're here because today, we are beginning by appreciating something I so often see in my clients and trainees, and it's **this capacity to connect what we're exploring in class with what you're noticing in your body and in daily life**. And that connection is really where learning deepens.

It's not just about what happens on the mat or in the clinic, but how you begin to recognize patterns when you're walking in the grocery store or climbing stairs or standing up from a chair - that's when the material really integrates, when the rehabilitation really integrates, when you feel it in motion and in context to real life.

Susi (01:10.71)

So today, I want to take this idea and place it into the very human activity of gait, because gait is one of the most fundamental patterns that we have. When we look at it clearly, it offers a wealth of insight into why some people experience knee pain, why swelling might show up after a long walk, or why fatigue in the hips can change how the feet move.

So let's begin really, really simply. When we're looking at a gait cycle, we are looking at three key areas: there's a **swing leg**, and that's the leg that's moving forward through the air as we move through our gait pattern, there's the **stance leg**, the one which is on the ground, supporting your weight while the other leg swings, and then there's the **weight shift**, the transfer of load from one side to the other as you move. Every step that you take in this coordinated dance in between swing, stance, and shift.

So now let's bring our attention down to the foot. After your foot makes contact, and for many people that looks like a heel strike, although for others it might be more of a midfoot or a forefoot landing, the load ideally transfers in a smooth sequence through to the toes. Often what we see is contact at the back of the foot, weight moving forward along the outer edge, at mid stance, the load spreading through the mid-foot, and then propulsion happening through that forefoot, often through the ball of the foot, and especially the big toe, with the hips and outer glutes helping to support that forward drive.

Susi (03:03.11)

Now, not everybody moves in this exact way. Some people shift immediately early. Some have a flatter or higher arch that changes the pathway, and some strike more with the forefoot than the

heel. It's not about forcing a single perfect pattern, it's more about noticing whether your own pattern allows the load to move forward clearly, and whether your hips and feet are sharing the work with your knees or whether the knees are being asked to do too much of the job.

That's the piece so many people miss. The knee is this midway point between the ankle and the hip. So if either off those areas, hip or ankle, aren't doing the job, the knee often ends up doing more than it's designed to do. So as we move through today's episode, I'll be unpacking how the hips and feet help share the effort, how fatigue in certain muscles can shift the pattern, and how you can begin to notice the signals that show up before pain or swelling.

Susi (04:12.39)

Now that we've laid out the basics of the gait cycle, which is that leg is swinging forward and back while the other leg is standing, let's go a little deeper and take a peek at the supporting cast. Because while the foot is where the contact with the ground happens, the pelvis, rib cage, and breath play a huge role in how that load is managed or transferred.

Think of it this way. Your foot is the point of contact, but your pelvis is the foundation on which the leg bone swings. The pelvis is stabilized by a team of muscles, abductors on the outside of the hips, abductors on the inside, rotators, the pelvic floor, transverse abdominis, and then layered through all of that is your breathing mechanism.

When these pieces are working well together, that pelvis as a platform has both stability and adaptability. It can hold steady when needed, but it can also respond fluidly to natural shifts of walking. If any of these systems is offline or goes offline, maybe the outer hip isn't engaging, or maybe the pelvic floor loading is holding too tight, maybe the breath is shallow while the adaptability decreases. And when adaptability decreases, compensation increases.

Another piece here is rotation. Specifically, the relationship between the ribs and the pelvis. Walking is not just a forward and backward movement. There's a subtle spiral happening every time you take a step. As your right leg swings forward, your left arm typically swings forward.

Susi (06:04.83)

And that counter rotation between the ribs and pelvis help to balance and distribute the forces of gait. And when that rotation is present, the low doesn't bottleneck in one joint. Energy moves in a wave-like transfer from the ground up through the foot, pelvis, and ribcage and the spine. But when the rotation is limited, maybe because of stiffness or because of guarding, maybe because of shallow breathing, then that transfer can get clunky and the forces land more heavily on the knees, the hips, or lower back, even the SI joint.

So when I'm working with clients who experience knee issues during walking, I'm not just looking at their feet and knees. I'm also curious about what's happening higher up.

Are their ribs moving? Is their breath easy? Do they have pelvic stability without gripping? Because all of these factors shape the gait cycle. Here's something you might notice in your

own body: when your breath is shallow or you're holding tension, your gait will often become smaller or more rigid in some way. Perhaps your stride shortens, your arms might not swing as freely. Your rib cage and pelvis might move more like a block than a spiral, and when that happens, the feet and knees may very well take on more work.

On the other hand, when the breath is easy and the pelvis feels supported, walking often feels lighter. Stride length opens, arms swing naturally. The ribs and pelvis rotate in opposite directions easily and fluidly with each step, and the whole system shares the effort more evenly.

This is why I don't just cue someone to stabilize their knee or strengthen their quads. When knee pain shows up in gait, that might help a little, but I think it misses the bigger picture.

Susi (08:19.25)

Instead, I invite them to notice how their pelvis is supporting, how their ribs are rotating relative to the pelvis, and how their breath is flowing. Because when those are clear, the foot, the knee, both of those parts can do their job more easily and know one part of the system needs to overwork.

Now, let's shift gears and talk about fatigue, because often the issue isn't what happens in the first few minutes of walking.

For many people, gait looks and feels fine at the start. The challenge shows up after longer distances when fatigue begins to creep in, and that's when compensations emerge more so, and it's awful when pain or swelling also show up in the knee. Think about it.

At the beginning of a walk, the hips and knees are usually pretty good at sharing the workload. The abductors and rotators stabilize the pelvis. The ribs and pelvis rotate with each step and the feet roll through the load transfer sequence fairly smoothly. But as fatigue sets in, whether in the quads, hamstrings, calves, shins, maybe up through the pelvis, smaller stabilizers, patterns begin to shift. But here's the tricky part.

Susi (09:39.84)

Most people don't actually notice these shifts are happening. They don't feel their pelvis hiking up or their ribs stiffening or the foot starting to slap down. They don't necessarily notice the gait pattern changing. Because the changes are often subtle, or they creep in so gradually that the first thing that someone does notice is discomfort or swelling at the knee well past the original compensation patterns.

But the key to remember, and part of my teaching, a key part of my teaching, is the body gives signals earlier, and those early signals are often quieter. Maybe the breath gets a little shallower. Maybe the stride shortens lightly. Maybe the arms stop swinging as freely.

These cues can be easier to pick up on than trying to catch the exact moment when the pelvis hikes or the foot collapses. And remember - this is important - remember that the knee sits in

the middle of the system. It doesn't generate power in the same way the hips do, and it doesn't provide shock absorption in the same way the ankle and foot do. Its role is, in many ways, more about guiding and transferring forces between those two ends.

So when the support above and below does fade, the knee becomes basically a middle manager needing to do everyone's job. So it makes sense that all of a sudden it's one of those all of a sudden moments where the knee starts swelling or becomes painful. No wonder it can feel a bit cranky. And partly that is because we just missed the signals earlier.

Susi (11:30.98)

Now, here's where this connects to something many of you notice in other movements like sitting to standing. If you've ever stood up from a chair after a long time sitting and felt your knees doing a lot of the work, it's often because the hips are not currently online in that moment, right? Maybe it was the way that you were sitting, or it's sitting for a long period of time, or what's happening between the pelvis and the spine and the ribs, or even the tissue there. Because when the hips are available, when the musculature, the myofascia, when the coordinating patterns between brain and muscles are on, **standing up feels easy, smoother, coordinated**, and the knees don't have to overdo. But when there is that lag between legs, hips, pelvis and spine, it's not uncommon at all, especially for people who have knees as being their thing, those knees can step in and take the load.

Walking is no different. Over time, as fatigue builds, the hips might not be able to contribute as fully, and so the knees can end up doing more than their fair share, and that's when swelling can appear. Not because the knee itself is bad or weak, but because it's being asked to do too much. It's being asked to do things that are supposed to be done by other body parts.

So the real opportunity here is to train yourself to notice those quieter earlier signals, whether it's breath or stride, arm swing, even your thought patterns - and that one's pretty cool, when you start to notice those too - those become checkpoints. I'm just noticing if those are fatigue markers or compensation markers. When you can catch those cues, you can make small adjustments. You can take a moment and stretch out utilizing a tree or a fire hydrant or a bench, really simple side bends or a gentle high lunge, even a twist, maybe taking a few breaths just to reset.

Susi (13:40.11)

These little ideas can prevent the knee from becoming overloaded and help you sustain a better whole body pattern for a lot longer.

So let's take this into something that you can try out, because understanding gait is one thing, but feeling it in your body is where the shift can really happen. If you're listening while you're walking right now, then you can experiment with these cues in real time.

And if you're sitting or standing still, simply imagine the movement and test it later on your next walk.

So now, initially, while you are walking. Just begin by noticing your breath. And notice what your breath feels like. We'll come back to your breath in a minute.

And as you connect with your breath, then start to notice your foot contact. The next time you take a step, notice how your foot meets the ground. Does it feel like it lands heavily or smoothly? Is there more contact on the outer edge? Does your arch drop in quickly?

The key here is there's no right or wrong. It's just noticing where your load tends to travel as the step unfolds. From there, bring your attention to the whole foot. Can you feel your heel, outer edge, mid-foot, your toes. One way to think about this is the three points of your foot as it moves through, center of the heel, ball of the foot, base of the pinky toe.

Now notice your leg swing. Notice how your leg swings in your pelvis, and just take a moment and sense into your pelvis and that movement of the leg bone. And notice as you move your leg bone when the heel strikes.

And notice the difference between your left and your right side, and then bring it together between pelvis, leg swing, and foot contact and whole foot movement.

Susi (16:01.19)

And we'll come back to the breath now.

You'll notice as you become more and more aware of your breath, that there's ways that your gait changes when your breath is shallow versus when your breath is easy. The tendency is that with a shallower breath, the gait tends to be smaller and stiffer. When it's easier, the gait often becomes more fluid.

So you could simply notice your breath, and if it makes sense to just go, *okay, hold on. Just let me just take a deep breath here*, or **can I just notice my inhale and exhale, and where does it feel to be open? Where does it feel like I can notice my body moving with my breath?**

I like to guide people to where the breath is already moving in their body, where they can already feel contact between the movement of breath and the movement of the body, rather than trying to correct something that feels tight or small, because when we focus on what's already open, then more open tends to arise. Just becomes a bit simpler, I find.

Susi (17:17.37)

So now bring that all together and notice your swing phase, your stance phase, your foot contact, whole foot movement along with your breath.

So then as you continue to walk, notice early signs of fatigue. And remember, they're way subtler often than pain. Pain is a lot more of a scream, and we're paying attention to whispers here. Maybe your stride shortens or your arms stop swinging as much. Maybe your foot footfall gets a bit heavier, or the swing of your leg is just a little bit different.

And that could be your body's way of saying, *Hey, you know what? I'm needing to shift the workload.* And again, when you can catch that, you can respond before pain starts to kick in. Like I love to use the line *when you listen to the whispers, you don't have to hear the screams.* And that might be a moment to simply take a pause and do a side bend, a lunge, a twist, a cal stretch.

And then notice when you do that little reset what begins to happen as you carry on with your walk. And it's amazing actually how just doing small little moments during your walking can effectively restore a pattern and grow the habit more effectively. And then over time, as your awareness builds, you'll start catching the signals earlier and earlier, but also your neurodynamic stamina starts to grow.

The habitual pattern between your brain and your tissue and your skeleton moving starts to grow. So not only might your cardiovascular capacity grow, but same with your motor control and coordination - inner in a way and outer.

Overall here, the real takeaway is that **we're not trying to make your gait perfect** and have perfect mechanics or forcing your body to move in a certain way, but rather **noticing how your body responds, sharing the workload across the system, and giving your knees a break from taking all that load.** It doesn't really need to if we've got the foot and the ankle and the hips and the torso working more effectively.

If this is interesting to you, and you'd like to explore these ideas further, you can check out I Love My Knees over at functionalsynergy.com/knees. You can also dig in more thoroughly to this topic with my professional training on I Love Gait, which you'll find over at functionalsynergy.com/gait -

G-A-I-T.

Susi (20:14.36)

In closing, as you take this into your next walk, remember, **gait isn't about perfection. It's about participation, control, coordination, coherence.** When your hips, knees, and breath are all a part of the mix, your knees don't have to carry all that load on their own.

And if you're curious to go deeper with this, I'll be running the gait program, **I Love Gait**, specifically for yoga teachers. And in that module, we'll be diving into gait patterns, compensations, and how to bring this awareness into teaching.

You can learn more over at functionalsynergy.com/gait. Until next time, keep listening, keep noticing. And keep giving your body the chance to move with clarity and ease. Have fun exploring.

Susi (21:20.52)

Hey there, if this is resonating with you and you would like to work more closely with me and really grow your capacity as a teacher to help your clients reduce and eliminate pain, your first step is over at the I Love Kinesiology program and you can read all about it over at **functionalsynergy.com/ILK**.

I'd love to see you there. Take care.