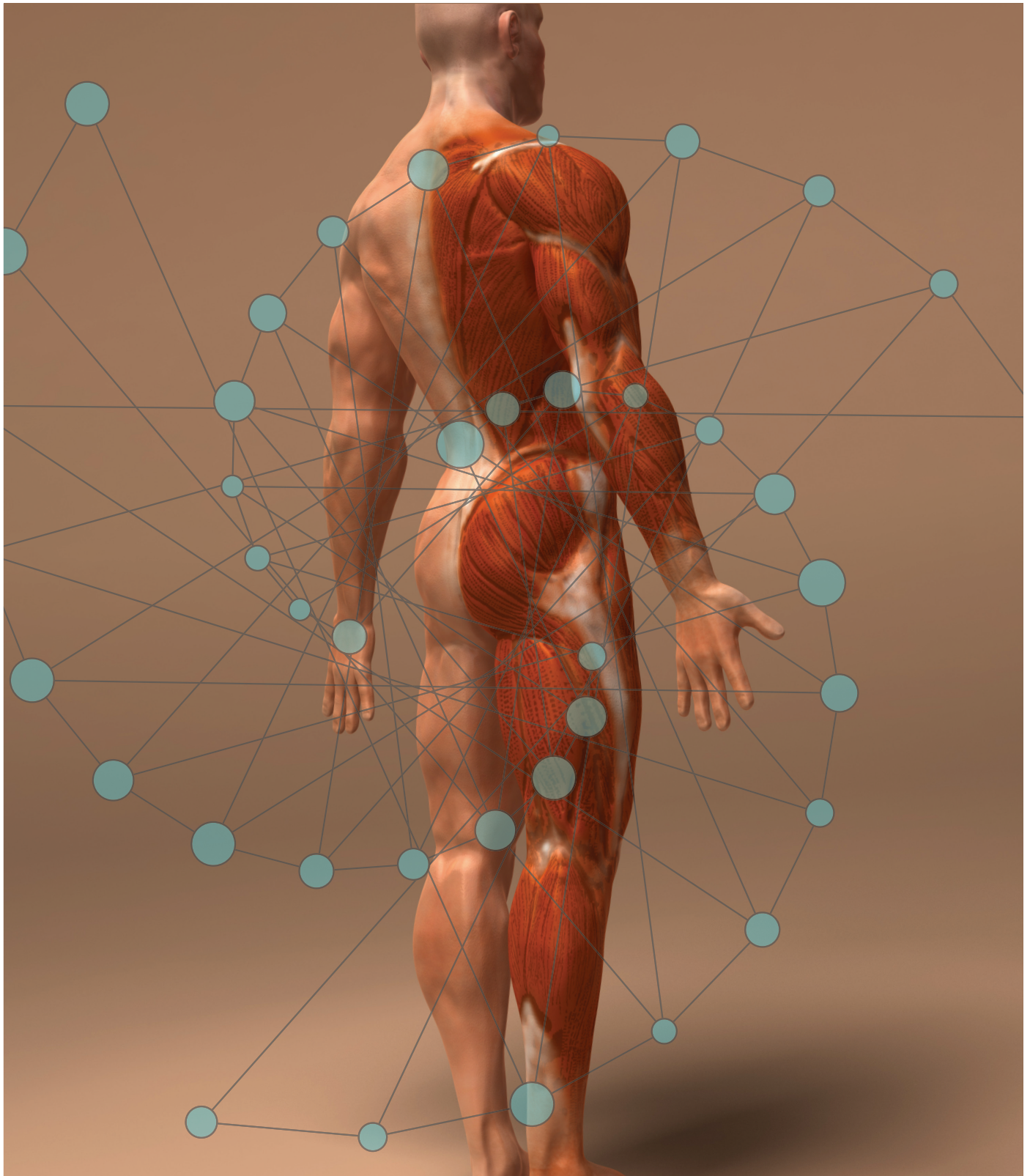


bodyreading the meridians

BY THOMAS MYERS



THE LATERAL LINES

We are journeying through the Anatomy Trains Myofascial Meridians in an effort to make some sense out of common structural compensations. In this series, we look at those deep postural conditions in terms of the coherent myofascial continuities that run along the body rather than only in terms of individual muscles or joint structures.

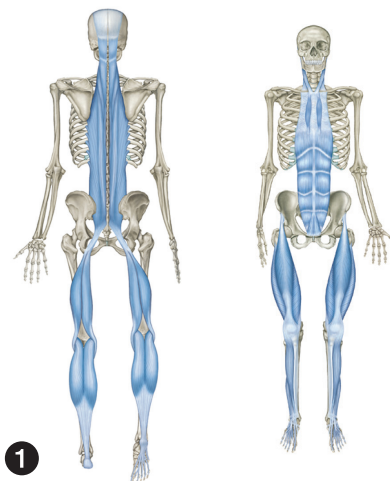
We observe these characteristic postural and movement patterns in our clients every day—a drop in a shoulder, a twist in the pelvis, one foot more heavily weighted. We recognize that to really treat (as opposed to just alleviate) the presenting symptom, we need to find the underlying strain, which can be centered somewhere quite distant from the site of injury or pain.

So far, we have looked at common patterns in the Superficial Front and Back Lines (Image 1). These lines present a balanced pair—a shortness in the front will pretty much demand a complementary compensation on the back and vice versa. These two lines are not symmetrical—the myofascial arrangement and even the type of muscle fiber differs substantially from front to back—but they nevertheless must strike a balance of some sort for us to remain standing and motivate into the world.

We examined these lines as if they were singular and discussed their effect on our sagittal posture—lordoses, kyphoses, shifts of the pelvis, and other antero-posterior compensation patterns. But there are in fact two front lines and two back lines—one just each side of the midline (i.e., there is a left Superficial Back Line and a right Superficial Back Line, exemplified by the two erector spinae going up the left and right sides of the spine, and two Superficial Front Lines, as in the left and right sides of the rectus abdominis going up either side of the linea alba). We did not make a lot of hay about differences between the left and right sides of these two lines, because they are so close to the midline that neither of them are capable of exerting much force on the skeleton to bend it to the side.¹

WHAT ARE THE LATERAL LINES?

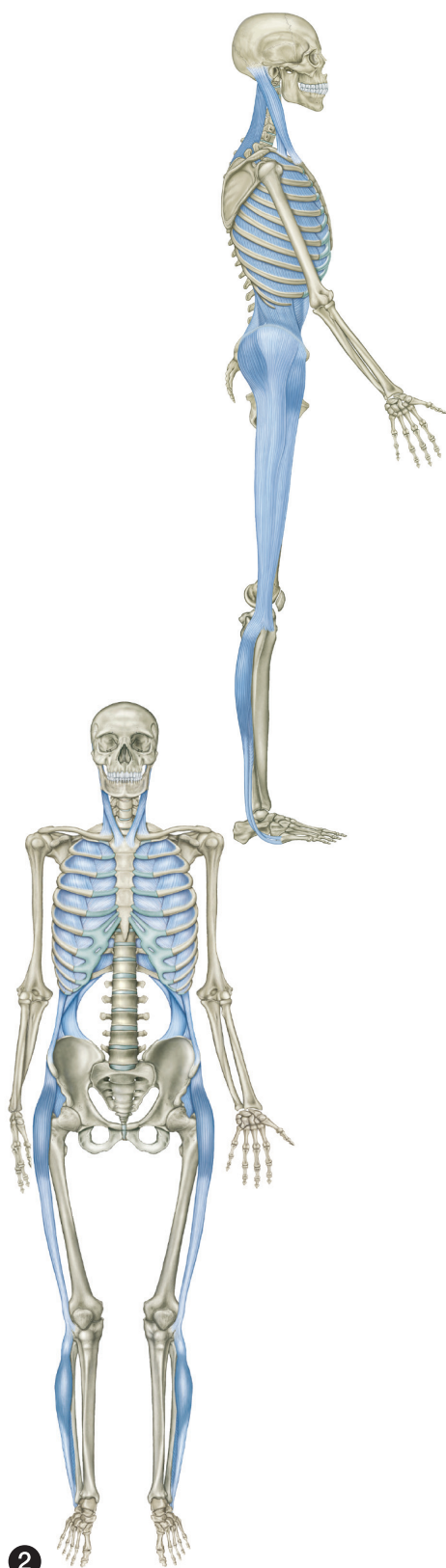
Now, as we turn to the Lateral Line for this installment (Image 2, page xx), we are really dealing with two separate lines—the left and the right. Unlike



1 The Superficial Front and Back Lines, which govern postural stability north and south, are actually two lines each—the left and right sides on either side of the sagittal midline.

the front and back lines, whose right and left manifestations are snuggled right up against each other at the sagittal midline, the two Lateral Lines are far from each other at the outside edges of the body, and therefore often work very differently from each other. Thus they have to be assessed and treated separately, as we will see.

If the front and back lines are the “north and south” of the body, then the two Lateral Lines are “east and west.” For this reason, we call these three lines taken together the cardinal lines, as they define the cardinal points of stability in our human compass—front, back, right, and left. Next time we will take on a line that winds through



2

The Lateral Lines are out on the body's sides—east and west—and therefore have more leverage to create imbalances in the coronal plane.

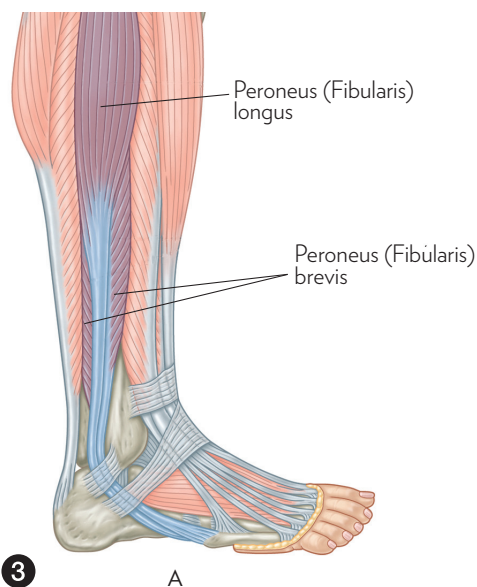
these cardinal lines and creates or maintains twists, the Spiral Line. That line, too, can express substantial differences on its left and right sides.

But let's not to get ahead of ourselves; the Lateral Line is our current topic. The Lateral Line runs along the outsides of the body from the outer ankle to the ear, as we see in Image 2. Let us take a brief anatomical tour before we look at the BodyReading issues.

Starting from the bottom, the Lateral Line begins—no surprise—with the lateral compartment of the lower leg (Image 3A). This compartment is comprised of two muscles: the peroneus brevis and longus, more recently officially renamed the fibularii, so fibularis longus and brevis are what we will call them here. You can feel this compartment coming down from the head of your fibula just under the lateral knee. This compartment is generally harder and stringier than

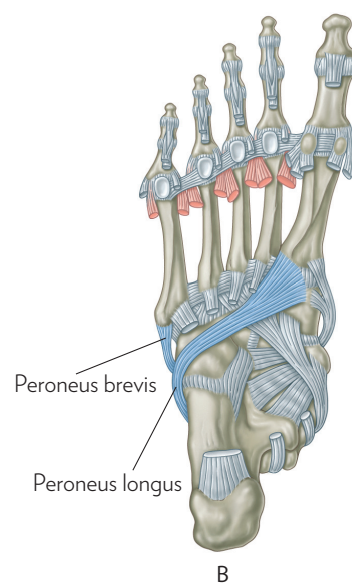
either the gastrocnemius behind it (part of the Superficial Back Line) or the tibialis anterior in front of it (part of the Superficial Front Line). If you follow it down, you can feel the tendon(s) running behind the fibular malleolus at the ankle.

It is difficult to feel both tendons, but they run from under the malleolus to anchor themselves to the bases of the first and fifth metatarsal bones, pulling the metatarsal into the tarsum of the foot and helping to maintain the arches (Image 3B). Lower leg muscles are often described in terms of what they would do if the foot was free, hanging in the air; thus these muscles are named as plantar flexors and everters. But in structural work we must be equally cognizant of what the muscles are doing in reverse, from insertion to origin. So when the foot is planted and weighted, you can see these fibularii muscles as preventing dorsiflexion and inversion. In other words, in daily life



3

A



B

The Lateral Line begins with the fibularii muscles occupying the lateral compartment of the lower leg, which arise from the bases of the first and fifth metatarsal bones.



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these are major stabilizing muscles of the outer ankle that prevent strains and hold our lower leg steadily under us.

These two also have another totally different stabilizing role: the whole compartment is surrounded by a tough fascial sleeve of intermuscular septa, and these walls are welded to the crural fascia, the sock—support hose, really—that surrounds the lower leg (Image 4). This points us toward the role these muscles have in all compartment syndromes: no matter where the symptom is, ease these muscles to ease the constricting tension in the circumferential binding around the lower leg.

With the fibularis longus, we have a tendon reaching all the way under the cuboid and across to the medial side of the foot, a pattern we will examine more fully next time with the Spiral Line. Fibularis brevis is easier to see and feel between the malleolus and the fifth metatarsal base. For now, we will follow our Lateral Line up over the outside of the knee. The lateral collateral ligament and anterior ligament of the head of the fibula are named structures, but actually there is a whole schmeer of sinew coming off the iliotibial tract (ITT) to the fibularis fascia.

The ITT, easily palpable just outside and above the knee, is a super-strong tendon that widens out into a sheet that spreads up to the entire iliac crest, anterior superior iliac spine to posterior superior iliac spine. On its way, four muscles affect it. Three of these are the deltoid of the hip: tensor fasciae latae (TFL) and the upper half of gluteus maximus form the anterior and posterior portions, while the gluteus medius lies deep to the ITT but is still attached to its

profound side and acts as the major stabilizer of the band itself (Image 5).

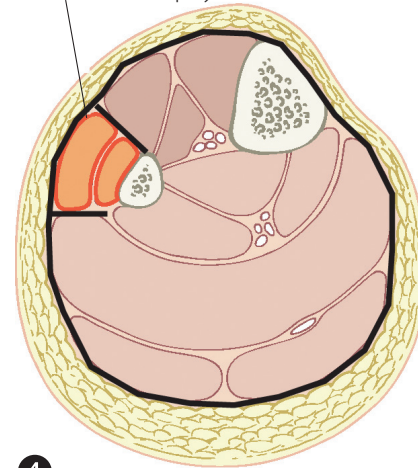
All of these muscles are part of this Lateral Line. But the fourth muscle that affects the ITT is vastus lateralis, a part of the quadriceps we dealt with in the Superficial Front Line. There is a question as to just how and where the vastus lateralis should attach to the ITT, but there is little question that when it contracts, the bunching of the muscle pushes out against the ITT and tightens it.

The Lateral Line in the leg has to tighten to stabilize each step. During the swing phase of gait, the body wants to fall off the weighted leg, so these muscles become movement preventers, not actively abducting, but stopping the weighted hip from adducting. Loss of strength or adaptability in these muscles requires the person to shift the weight fully from one leg to the other in each step, a process we see often in elderly clients, or in the Trendelenburg gait characteristic of atrophy on these muscles. (In Trendelenburg gait, weak abductor muscles allow the pelvis to tilt down on the opposite side—or adduct on the same side. To compensate, the trunk lurches to the weakened side.) The vastus lateralis, though not part of this line, certainly functions to help create that taut and strong band that contributes so much to our lateral stability system.

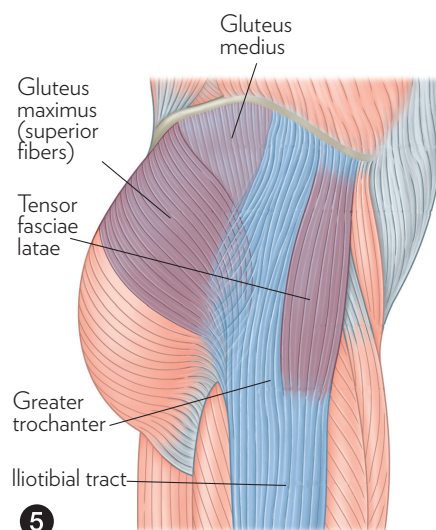
LACING UP THE LINES

Above the iliac crest, the Lateral Line takes on a unique pattern: a series of switchbacks that form a series of Xs up the torso, under the shoulder, and across the neck to the ear. Taken together, this myofascial organization reminds us of the lacing pattern of shoes, so we could say that in the upper

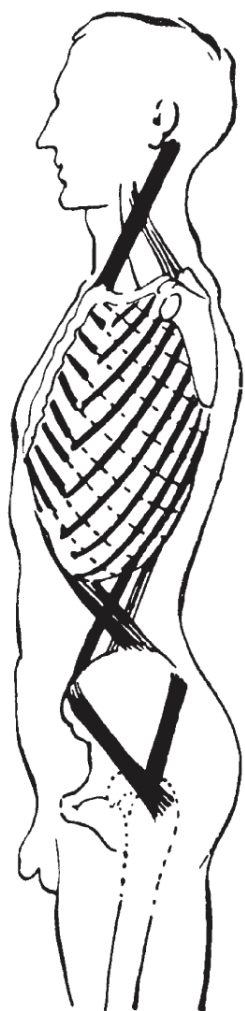
Lateral Line
(fibularii and fascial septa)



The fascial walls that form the borders of the Lateral Line hook strongly into the crural sock of fascia that surrounds the leg—making freeing this area important in all cases of compartment syndrome.



The Lateral Line includes the deltoid of the hip on the outside of the thigh, crucial to stability in every step of human walking.



6 The Lateral Line forms a series of switchbacks from the hip up under the shoulder to the ear. This version of the Lateral Line was published in 1936, so the idea behind Anatomy Trains is not that new or unique. Used with permission, Hoepke, 1936.

body, the Lateral Line laces together the front and back lines (Image 6).

In the lateral abdomen, this lacing takes the form of the X between the external and internal lateral abdominal obliques, which run to the lower ribs. The external and internal intercostals take over from here, running along with the ribs in the same X pattern (though lots of small ones instead of one big one), under the whole shoulder assembly of lats, pects, etc., to the base of the neck. The uppermost X is in the neck, where the splenii muscles and the sternocleidomastoid (SCM) balance each other for proper placement of the head. (That's on a good day. So many of our clients have head-forward posture that destroys this functional balance, concentrically loading the SCM and eccentrically loading the splenii. The leading edge of the trapezius then ends up with a ton of trigger points, and levator scapulae turns into "capitis-preventus-going-forwardus"—not a happy situation for any of these muscles or their owner.)

Notice that in each of these Xs, the muscle that goes down and forward (one leg of the X) is more superficially placed than the one that goes down and back (the other leg of the X). The external obliques and intercostals go down and forward while their internal counterparts go down and back. And it's the same in the neck—SCM lies on top of splenius.

Also notice that if both of these X muscles are tight, they will pull the body to the side (we will discuss that shortly). But if one leg of the X is shorter than the other, it will tend to pull the body into a spiral—(i.e., to rotate your head to the left, you contract the right SCM and the left splenius capitis). Let us leave that part of the discussion to our journey in the

Spiral Line next time and concentrate on more pure lateral bends this time. Mostly in real life they work as a combo that cannot be purchased separately.

So in the lower body, the Lateral Line takes the shape of the letter Y, stabilizing the pelvis on the foot on the weighted leg. The characteristic cocked hip casual posture leans on the fascia of the Lateral Line to stabilize the body. Every step does the same thing, but with more muscle activation to prevent too much swinging in the hips. A wide-hipped woman in high heels sashaying down a New Orleans street gets a lot of hip swing in there requiring a lot of adaptability in the Lateral Lines; uptight New England males like myself know something terrible will happen if we let our Lateral Lines loose in that way.

In the upper body, the Lateral Line takes on the shape of many Xs, forming a lacing or basket weave up the side of the body, and again mostly stabilizing the left-to-right oscillations of the trunk in walking and shifting ourselves about. But unlike the Superficial Front and Back Lines, the Lateral Lines are out there on the sides of the body, well away from the axis of the spine, with more leverage to pull the body into side-bending. So in terms of BodyReading this line, let us look at the dynamics of left-right imbalances.

ASSUMED ASYMMETRY

Asymmetry in the left and right sides is almost inevitable given that most of us favor either our right or left hand, foot, and eye, so that the use of the two sides is substantially different. Although symmetry is a general goal, the more you get into this kind of work, the more the idea of a good marriage between left and right will appeal to you, rather than actual visual symmetry between the lines.



While it is easy to see that the shoulders are imbalanced in this client, can you see that they are only following the rib cage left shift and right tilt underneath the shoulder yoke?

For instance, the easiest thing for you (and your clients as well, if you show them a photo or stand them before a mirror) to see is an imbalance between the two shoulders. Such imbalance is very common, and a good thing to start out with when guiding your client into reading his or her own body. But as easy as it is to see, the imbalance in the shoulders is almost never the source of the problem.

Look below the shoulders themselves to see what is happening with the rib cage, or below the rib cage to the pelvis. This is similar to a mother's lament when a fight breaks out, with the shoulders saying, "It's not my fault!" like a child and pointing to the rib cage, and the rib cage saying, "It's not my fault!" and pointing to the pelvis. We must follow this trail down the body until we find a balanced set of joints, and then work our way back up again, assessing visually and manually until we find where it starts to go wrong. The shoulders—farther

Another overall assessment of the Lateral Line runs to asking the question: do these lines look pulled up or pulled down overall?

up the line—will frequently tell you about imbalance well below the actual shoulder yoke (Image 7).

Another overall assessment of the Lateral Line runs to asking the question: do these lines look pulled up or pulled down overall? People whose Lateral Lines are pulled up often look square in the shoulders and are often full of energy to the point of anxiety. Their pulled-up Lateral Lines may be compensating for a dropped or pulled down core (which we call the Deep Front Line—stay tuned).

Those whose Lateral Line is pulled down overall often have more sloped shoulders, the feeling of the rib cage almost resting on the pelvis at the sides, and a down feeling along the sides which can go from a feeling of grounding to a feeling of resignation (Image 8).

Getting more specific, and starting at the bottom, eversion or pronation of the foot is the first sign to look for in terms of excessive fascial shortness or chronic muscle tension in the lower Lateral Line. This compartment, if it



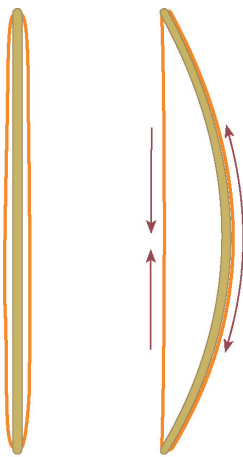
Can you see that in 8A the Lateral Lines overall are pulled down into the outer ankles, while in 8B they are seemingly pulled up all the way to the shoulders?

is shortened, can hold the foot into a fallen arch position, and no amount of manual or muscle building work on the inside of the foot or lower leg can substitute for lengthening and easing of this compartment in the outer leg.

Knock knees (or "X legs," where the knees touch before the ankle do, or *genu valgus*, if you want to say it in Latin) are also a Lateral Line problem (Image 9). The Lateral Line acts like a bowstring, putting a bow in the legs (Image 10). The valgus bow is concave outward, indicating fascial shortness on the outside of the leg and corresponding fascial strain on the inseam, which often expresses itself as medial collateral ligament strain or *pes anserinus* irritation. Whatever else you may do in terms of strengthening or lengthening, this pattern requires early fascial lengthening of the outer surface of the whole leg to allow the bones the slack to be able to move laterally.



Extra weight can be one of the factors that bend the knees into a valgus pattern. Losing weight and muscle strengthening are important, but in soft-tissue terms, the fascia on the outer line of the leg must be eased to allow the bones room to move back into place.



10

If we had a bow with strings of equal tension on both sides, the bow would rest straight (left). As one side is shortened (right), it drives the bow away from it into the other string, which is passively lengthened, but that string would still feel “tight” to your palpating hand. The image on the right parallels the left leg of the gentleman above. Folks carrying a lot of weight frequently complain of pain on the inside of the knee—but relief will come with easing the fascia on the outside.

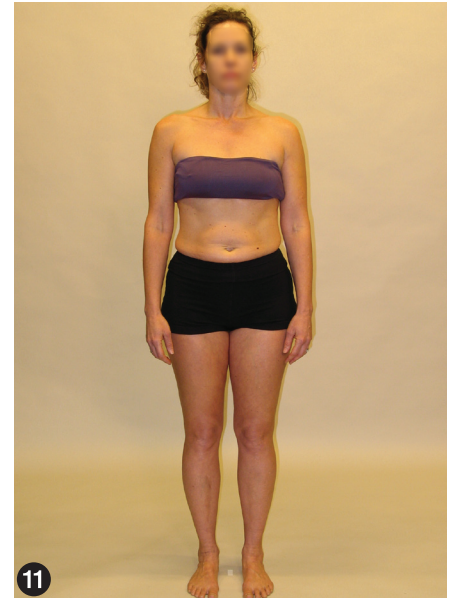
The pelvis is subject to all kinds of twists and turns, and the dynamics of the pelvis are beyond our limited space here. Basically, when measuring the lateral horizontality of the pelvis, put your fingers on the top of the iliac crests, to be sure you are not being deceived by adipose layers or (worse) measuring the horizontality of the underwear.

If one side of the pelvis is substantially higher than the other, this may be due to leg length difference, a torque through the innomates, or real structural anomalies in the length of the leg bones, even though this last is more rare. Work the Lateral Line between ankle and hip on the low hip side especially, looking for more dynamic and active lengthening in the abductors. We cannot describe the technique here usefully, but reaching deep to the gluteus medius to reach the gluteus minimus brings groundbreaking (and sometimes breathtaking) new movement for many.

Above the waist, the difference between the left and the right are easier to read and treat: the distance between the ribs and the hips, the length of the rib cage, and the set of the shoulders are all indicative of where to work in the Lateral Line.

Add to this the length of the neck. The scalenes, though technically a layer deeper in the fascial planes, definitely play into this line. Facing the client, or back to, measure the distance and shape of the curve from the corner of the jaw to the tip of the shoulder. It is usually easy to see, when viewed this way, which shoulder is held down and which is held from above, and plan your treatment accordingly.

A characteristic pattern of the two Lateral Lines is to have one side short from hip to ankle, the contralateral side from hip to shoulder, and often (but not always) the first side short in the neck again (Image 11). If one of these compensations is causing problems,

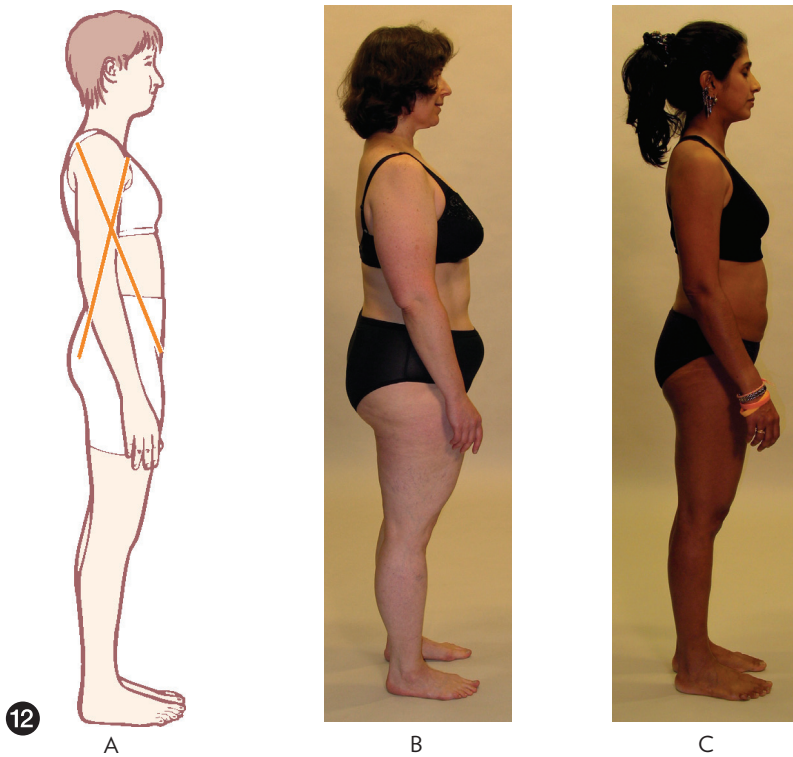


In this common compensatory pattern for the Lateral Line, the right Lateral Line is short in the leg, her left Lateral Line is short in the trunk (from waist to shoulder), and the right side is again short in the neck.

then releasing the whole pattern will get you longer-lasting results.

Another important BodyReading technique for the Lateral Line involves standing not in front or back, but to the side. We have said that above the waist the Lateral Line is a series of Xs on each side—internal and external oblique and the very similar intercostals. If we summarize all of those little Xs into one big X (Image 12), we can see which of the legs of this X are short.

So, standing at your client's side, draw an imaginary line from the tip of the C7 spinous process to the pubic bone, and another imaginary line from the sternal notch to the sacrolumbar junction. With this big X, you have summarized all the little Lateral Line Xs up the side of the torso. The two legs of this X, in an ideal world, would be equal. Often, in our culture anyway, the leg from the sternum to the sacrum is shorter, either because the sternum and ribs are depressed, or



12 Viewing your client from the side, draw an imaginary X on the trunk (12A). In 12 B you see a balanced expression of that X, whereas the sternum-to-sacrum line is shorter in 12C.

body and seduction. If turning your back on someone is the equivalent of saying no, and fully facing someone a way of saying yes, then being side on is a way of saying maybe—an essential element in the art of seduction. Look at any Sunday fashion supplement and see how many of the models are presenting themselves from the side—it is the classic pose of the coquette (Image 13). This is possibly irrelevant to structural BodyReading, but I find Earls’s insight fascinating. Consider the awareness you have in front of you (a big kinesphere), behind you (usually a smaller kinesphere, unless you are a regular martial arts enthusiast), and then out to the sides—your peripheral vision. How do you handle what comes in from left field?

Next time we will take on the related Spiral Line, but until then, have fun with viewing the Lateral line in your clients. It’s a potent source of both balance and freedom. **m&b**



13 The Lateral Line is interestingly often employed in a seductive pose. It is neither yes nor no, but rather maybe.

the sacrum is hiked up in back, or both. This is a complex and core pattern, but the Lateral Line contributes to it, and you can ameliorate these patterns by ensuring that the internal oblique and intercostals are open, stretched, and functioning as they should, as opposed to closed, short, and inactive.

In function, the Lateral Line acts to stabilize our lateral movement—as we described in the gait above, or in the quick dodging and weaving we must do on the soccer pitch. People with fascial adhesions or coordination problems in the Lateral Line are limited in their ability to stabilize. Think of a new rider on a horse, where we usually have to practice to obtain that increased lateral stability.

LATERAL LINE OBSERVATIONS

Just a last note (maybe relevant, maybe too out there): my colleague James Earls pointed out to me the connection between the side of the

6 Thomas Myers is the author of *Anatomy Trains* (Elsevier, 2009) and *Fascial Release for Structural Balance* (North Atlantic, 2010). Myers studied with Ida Rolf and has practiced integrative bodywork for more than 35 years. He directs Kinesis, which offers more than 100 professional certifications and continuing education seminars per year worldwide. For more information, visit www.anatomytrains.com.

NOTE

1. The exception to this is the *iliocostalis lumborum*, the outer muscles of the erector spinae, which can be instrumental in side-bends of the spine. The *longissimus*—the cables we often feel in the back—can be involved in maintaining a spinal side bend, but is usually not imbalanced enough or far enough from the sagittal spinal fulcrum to create it.