

## SI Instability - or Something Else?

Marc Heller, DC | DIGITAL EXCLUSIVE

I tend to see many patients who have failed previous chiropractic and/or physical therapy. Many of them have been told they have an unstable sacroiliac. When I examine them, patients do tend to have pelvic obliquity with an anteriorly rotated ilium. But do they have true SI instability and/or true SI pain?<sup>1</sup>

### Two Initial Considerations

First, is the sacroiliac joint and its rotation the cause of their problem? Second, why is this anterior rotation such a common pattern? My articles over the past several years reveal me to be somewhat of a sacroiliac skeptic. I believe the apparent SI instability is usually a compensatory problem, but this is not the complete answer. The sacroiliac is indeed commonly rotated forward. Why?

Let's look at this from both a muscular and a joint-focused approach. First, it is necessary to acknowledge that any low back pain causes significant inhibition of the core musculature, including the gluteals and the multifidi; and hyperactivity of the longer erector spinae, tensor fascia lata and hip flexors.

Inhibited gluteal musculature allows the ilium to rotate forward. In other words, when the gluteals are active, their attachment on the posterior surface of the ilium rotates the ilium posterior. When the erector spinae is hypertonic, its attachment on the ilium pulls the ilium anterior. When the hip flexors and TFL get tight, they pull the ilium forward.

I'm not sure it's possible to agree on all of the actions of the deep stabilizers, including the multifidi, but core inhibition allows loss of the lumbar lordosis, and the sacrum counternutates. The sacral base ends up posterior. I learned this pattern from Mark Comerford, PT, of Kinetic Control. It is consistent with Vladimar Janda's observations of the lower-crossed pattern.

How does this pattern affect joint alignment? Anterior ilium rotation, combined with sacral counternutation (posterior sacral base) places the sacroiliac in an inherently unstable position, which puts slack in the ligaments. In contrast, when the ilium rotates backward and the sacrum rotates forward (nutations), the SI is more stable. Due to this muscular pattern, any back pain from any source can create anterior ilium rotation and SI instability.

### Assessing the Muscular Component

Can you determine which patients have this form of core muscular instability? Barbara Hungerford, an Australian PT, came up with a test, [a variation](#) on the Gillet's stork test. (I wish she had not used the term *Stork test*. In my Gillet-based motion palpation world, a different stork test is strictly a joint mobility test, not a stability test.)<sup>2</sup>

When the key pelvic stabilization muscles are inhibited, here is what happens when you perform this test (let's use the right side as the example):

- The patient stands in front of you. They should stand unsupported. Your left thumb is resting on the right upper sacral base; the right thumb on the PSIS. Your thumbs should be placed parallel to each other, pointing at each other.
- Ask the patient to lift the left foot up in a marching motion, just a couple of inches up. (This challenges the musculature of the stability leg, the right leg in this case.) In a normal, stable right SI, the right PSIS will move inferiorly due to the action of the stabilizing muscles.
- When the sacroiliac and its muscular support is not working properly, the PSIS will either remain level in relation to the sacral base or move superior in relation to the sacrum. (Test both sides and compare.)
- When this test is positive for aberrant motion of the ilium, the patient has muscular instability and are very likely to show SI instability.
- The treatment is basic rehab. Wake up the glutes and the core. Relax, release, and soften the hypertonic muscles.

Here is my perception, my opinion of these unstable sacroiliac patients. A very high percentage of them do not have true SI pain. They rarely have positive SI provocation tests. (Do you know or use these [five SI provocation tests](#)?<sup>3</sup> They are quite valuable in differentiating SI dysfunction from SI pain.) Occasionally, the patient will have some tenderness over a sacroiliac ligament. The SI is usually compensating for other problems.

#### Common Patterns That Can Mimic SI Instability

*1. The patient frequently shows indications of a flexion-intolerant lower back, implying there is a discogenic mechanism underneath at least some of the pain.* Axial discogenic pain is often experienced more on one side and the pain is often felt directly over the SI joint. The involved lower lumbar segments are unstable in discogenic pain, contributed to by some combination of degenerative changes and muscular inhibition of the core.

*2. The patient may have Maigne syndrome with irritation of the cluneal nerves, accompanied by an upper lumbar or thoracolumbar joint dysfunction.* The primary presenting pain in Maigne syndrome is buttock pain or flank pain, often mistaken for SI pain. The pain is uncommonly experienced in the TL area of the spine. The [tender points](#) are found lateral to the SI, just below the iliac crest.<sup>4</sup>

*3. The patient often has functional [hip impingement](#).*<sup>5</sup> The hip lacks normal motion, usually primarily into internal rotation. You can find palpable tenderness over the femoral head, often accompanied by inhibition of the hip flexors. When the hip stops moving properly, the SI and the lower lumbar compensate by moving excessively.

#### The Most Common Error in Low Back Care

Many practitioners, when they observe that the SI is misaligned, think it is the source of pain. In my opinion, this is the most common error in low back care made in both the chiropractic and physical therapy worlds. I think it is critical to start with an accurate diagnosis. The literature tends to show inconsistent results for manipulation of the lower back for nonspecific LBP. If you are mobilizing or adjusting the sacroiliac over and over, you are not solving the problem. The same statement could be applied to side-posture manipulation of the lower lumbar facet joints. How should you treat these patients to solve their pain?

#### What You Should Do (and Not Do) in These Cases

As most of the patients I see have some degree of chronicity, they almost always need to train for

stability of the core. But this is not usually quite enough. Address the pain generators coming from the lower thoracic and upper lumbar. Adjust those levels. I also suggest Dermal Traction Method to quiet the involved cluneal nerves. Fascial restrictions need to be released in any chronic pain pattern.

These patients also need to learn to move properly so they stop continually re-irritating themselves. The exercises they stop are as important as the one they do. For discogenic pain, temporarily have them stop flexion exercises. For the hip, stop trying to open it into external rotation.

Of course, observe SI positioning. At the end of each session, after you have addressed the many other factors, recheck the SI alignment. It will usually have normalized. If not, go ahead and address it. I strongly suggest low-force methods, as the SI is most commonly hypermobile.

### *References*

1. Laslett M. Evidence-based diagnosis and treatment of the painful sacroiliac joint. *JMPT*, 2008;16(3):142-52.
2. Description of the Hungerford version of the stork test, including video demonstration.
3. SI provocation tests: a good video and description / algorithm.
4. Heller M. "How to Find and Fix TL Nerve Impingements." *Dynamic Chiropractic*, April 15, 2016.
5. Heller M. "Functional Hip Impingement, Part 1." *Dynamic Chiropractic*, April 15, 2015

DECEMBER 2019