Dynamic Chiropractic

DIAGNOSIS & DIAGNOSTIC EQUIP

The Static Postural Pelvic Exam

A DETAILED FIVE-STEP EXAMINATION PROTOCOL.

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I include a static postural analysis in my evaluation routine whether you are a patient in pain or an elite-sport athlete in training. In my day-to-day practice, I require patients to stand still while I "just look" at them. At the minimum, I feel I need to perform a standing evaluation of the pelvis before checking balance, gait, movement patterns, muscle-length testing and soft-tissue assessments. Here's how I do it.

My patient is standing with shoes and socks off, shirt off (women in a sports bra), in front of a mirror. I let my eyes scan their entire body. My approach to sharing this information with you, the reader, is, "If you see this, then look for these compensations."

Step #1

I stand behind my patient and palpate the top of the iliac crests. A *lateral pelvic tilt* is when one iliac crest is higher than the other, with differences of less than a half inch considered within normal range of variability. If you note one iliac crest higher than the other by more than a half inch, consider that this may be due to:

- A leg-length discrepancy
- Lumbar or SI pathology
- Shortness of the quadratus lumborum
- Shortness of the latissimus dorsi muscle

This may also be associated with tightness of the 1-joint hip adductors and iliopsoas complex. The TFL muscle attaches about 5 cm away at the iliac tubercle. The external lip of the iliac crest also has the external oblique and latissimus dorsi attached to it, and along its whole length the fascia lata; to the intermediate line, the internal obliques; and to the internal lip, the iliac fascia, the transverse abdominals, quadratus lumborum, sacrospinalis and iliacus.

Step #2

I remain behind the patient and look for a *lateral shift*. This occurs when the pelvis is shifted laterally to the trunk. It may be due to lumbar pathology, short hip adductors or weakened hip abductors. For example, I may write in my chart notes, "The patient has a left lateral shift with right torso lean."

Step #3

I walk around to the front of the patient, bend down on one knee and lightly palpate the anterior superior iliac spine (ASIS). This is an important landmark of the iliac crest of the pelvis, which provides attachment for the inguinal ligament and the sartorius muscle.

The anterior-superior iliac spine provides a clue in identifying some other clinical landmarks, including McBurney's point, the Roser-Nélaton line and measuring leg length. I am looking for *rotation* of the pelvis. Ask yourself if the vertical plane through one ASIS is forward of the vertical plane through the other ASIS. If it is, this is due to rotation – when one ASIS is anterior of the contralateral ASIS.

ASIS rotation may indicate lumbar or SI pathology, or multiple short muscles. Observe which ASIS is closer to you. Clockwise rotation occurs when the left ASIS is forward of the right.

A left pelvic rotation (the left ASIS is anterior) may be associated with a deformity that causes the left femur to externally rotate and abduct. The right femur is internally rotated and adducted, the weight is shifted on the right leg, and the lumbar bodies rotate to the right. This may be accompanied by tightness of the ipsilateral piriformis and contralateral TFL.

If the shoulder is rotated to the same side as the pelvis rotation, then compensation occurs in the upper cervical spine with possible accompanying symptoms in the cervical region. If the shoulder *does not* rotate with the pelvis, the spine is torqued and the patient often complains of fleeting pain along the torqued thoracic spine. This may be attributed to asymmetry of stride length during gait and ensuring dural torque.

It is typical to see a left rotation. This may indicate that the right tensor fascia lata is short and the right posterior glute medius is long; on the left, the posterior glute medius or the hip lateral rotators muscles (obturators, gemelli and piriformis) could be short or stiff.

Step #4

I put my index finger on the PSIS and ask the patient to put their index finger on the ASIS. Ideally, a line from the ASIS to the PSIS should deviate only *15 degrees* (from a horizontal line through the PSIS). If you see *anterior pelvic tilt* (increased lumbar lordosis),it may indicate glute medius / maximus or abdominal inhibition or weakness, and/or hip flexor and lumbar extensor hypertonicity or shortness. Weakness of the glute maximus can lead to anterior torsion of the ipsilateral ilium.

If you see *posterior pelvic tilt* (flat back or decreased lumbar lordosis), it may indicate tight hamstrings. I also notice if the ASIS is in the same vertical plane as the pubic symphysis.

Step #5

This is where I pause in my evaluation and review my findings with the patient. If the patient has a left rotation, I explain that this causes the sacrum and lumbar bodies to be oriented toward the right; which could explain why the patient has right-sided thoracolumbar hypertonicity and pain in the right low back. The left rotation could also explain a compensatory rotation of the left thoracic vertebral bodies. As a result, the right ribs internally rotate and the left ribs externally rotate, leading to a host of breathing, shoulder, neck problems, etc.

Just getting patients to be aware of this malpostural position of the pelvis and take responsibility for correcting the pelvis into a neutral position while they sit in the car, chairs at work and furniture at home will improve a difficult or chronic low back case.

If I feel and see any of the above pelvic dysfunctions, I ask my patient to put their fingers where I had *my* fingers so they understand what I am feeling and seeing. I want my patient to see and feel what I

feel and see, so they can help themselves reposition the pelvis while sitting, standing, walking and sleeping. I use visual postural analysis to create awareness, and to educate my patients as to what may be contributing to the cause of muscle imbalance stress and repetitive loading. Who says improving posture doesn't improve pain?

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