

Sacroiliac Conditions and Care

Acute sprain. The sudden onset of unilateral sacroiliac pain is usually caused by forceful twisting, or heavy lifting (especially from a stooped position). The provocative tests for the SI joint (e.g., Gaenslen's, Yeoman's) are positive, increasing local pain. Initial care consists of a protective support (trochanter brace), activity restrictions (especially weightbearing), and cryotherapy. Adjustments should be performed cautiously, to avoid overstretching the stabilizing ligaments. Once the acute phase has subsided, an in-depth evaluation of the pelvis and lower extremities should be done. This discloses any predisposing factors, such as excessive pronation, leg length inequality, or muscle imbalance.

Sacroiliac syndrome. Recurrent problems and non-traumatic subluxations of the SI joints are usually due to an acquired instability. Pain is usually aggravated by prolonged or repetitive weightbearing activities. Patients often get dramatic relief from specific sacroiliac adjustments, but the condition tends to recur. A search for underlying gait asymmetries and biomechanical imbalances is needed.

Other factors. It is important to recognize the functional short leg, since providing a lift instead of an orthotic is likely to perpetuate the associated SI subluxations. And there is no reliable information on the radiographs to differentiate these conditions. A pelvic tilt, a lower sacral base, and a femur head discrepancy indicate a lower extremity source - but not whether it is an anatomical or a functional short leg. A good clinical postural exam with lower extremity screening (including shoe wear patterns) is the only way to make this determination.

When SI dysfunction is not cared for appropriately, chronic back pain can develop. Misdiagnosed patients may undergo a discectomy or spinal fusion surgery, with little to no relief. Fortunately, most sacroiliac conditions respond well to chiropractic care, especially when accompanied by individually designed Stabilizing Orthotics (Fig. 2) and rehabilitative exercise.

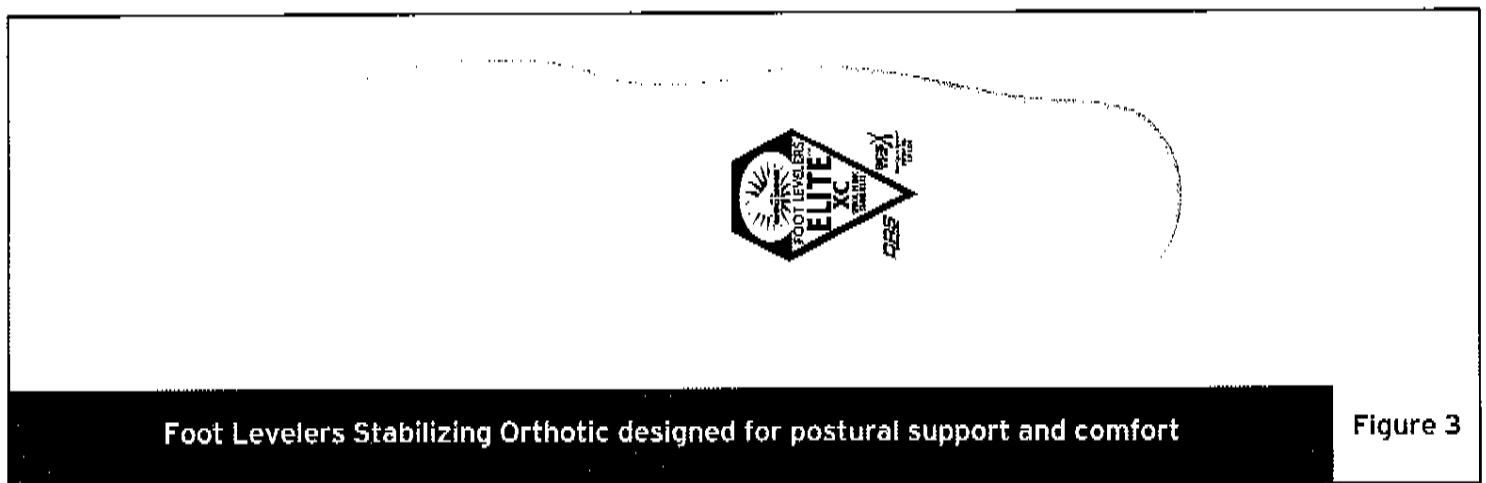
Orthotic Support

Because the SI joints are so intimately involved in gait, orthotic support for the feet is often a necessary component of care in sacroiliac conditions. Orthotics can help:

- Reduce pronation, which helps to decrease stress on the SI joints⁶
- Decrease the medial rotational stress on the sacroiliac joints
- Avoid excessive counternutation
- Diminish ground reaction forces sent through the longer leg by correcting functional or anatomical leg length discrepancies⁷
- Ease heel-strike impact (particularly necessary when there is instability, degeneration, or even an inflammatory arthritis in the SI joints)⁸

Rehabilitative Support

Corrective at-home exercises to strengthen supporting muscles can be recommended as an adjunct to clinical treatment. Activity should focus on developing strength in the abdominals and supporting pelvic muscles. This can also enhance the shock-absorbing properties of the tissues. Foot Levelers' BACKSYS[®] exercise program is especially suited for SI rehabilitation.



Foot Levelers Stabilizing Orthotic designed for postural support and comfort

Figure 3

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BALANCED INSIGHTS

Comments, Tips & Insights for Health Care Professionals from Foot Levelers

Sacroiliac Joint Dysfunction and Postural Support

The sacroiliac (SI) joints are the source of many symptoms categorized as “mechanical low back pain.” Estimates of the prevalence of painful sacroiliac problems in patients with low back pain vary widely¹, probably due to variances in definitions, testing methods, and patient selection. While a pattern of unilateral pain extending from the lowest part of the spine into the buttock and down the back of the upper leg is classic (Fig. 1), this, too, can vary significantly among patients. Effective chiropractic care of spinal problems can proceed only when the sacroiliac joints are evaluated and all subluxations and malfunctions are addressed.

SI Joint Function

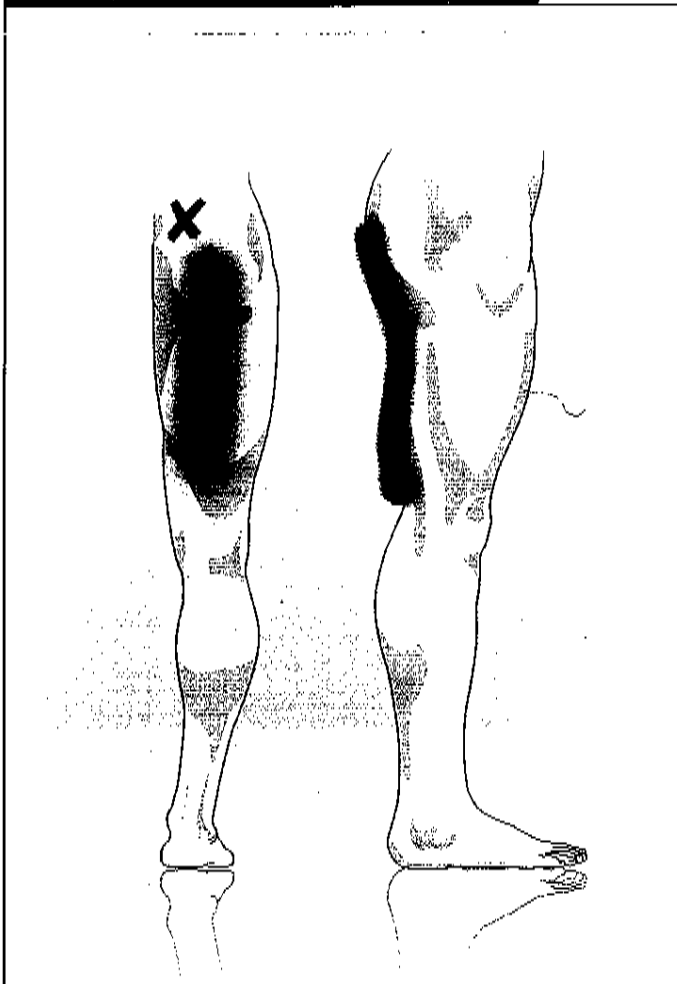
The sacroiliac joints do not flex and extend or rotate. The axis of SI joint motion is unique, and the movement of these joints is called “nutation.”² Most of the important work of the SI joint occurs during gait. With each step, one leg swings forward and the pelvis twists forward on that side. At heel strike, the leg is externally rotated and the ilium is posterior (PI). As the foot and ankle pronate, the leg rotates inward and the sacroiliac joint “contranuates.”³ The ilium moves anterior (AS) during mid-stance. As the foot and ankle supinate and the leg rotates outward, the opposite movement (nutations) now brings the ilium posterior. If this complex movement pattern is disrupted, gait abnormalities and pelvic-region pain develop.

The ground reaction forces generated during gait result in two additional phenomena:

1. Because of the irregular contour of the joint surfaces, sacroiliac movement occurs only when there is enough force to overcome ligamentous resistance. This is thought to constitute a shock-absorbing mechanism.⁴
2. When there is a difference in leg lengths, the increased ground reaction force from the longer leg causes the ipsilateral ilium to rotate more posteriorly. The higher forces and repetitive subluxation of the sacroiliac joint may be the underlying cause of the increased frequency of low back pain seen in patients with a leg length discrepancy.⁵ ■

Classic pain pattern from SI joint

Figure 1



Collapsed Arches Restrict SI Joint Function by Kevin Wong, DC

Objective Findings and Vitals

The patient, a Caucasian male, is 45 years of age. He is a non-smoker and never consumes alcohol. His height is 5 ft. 10 1/2 in., and he weighs 175 lbs.

History and Subjective Complaints

The patient has complained of bilateral low back pain for the past 10 or 11 years. His symptoms have historically flared up every 8 to 10 weeks, depending on his level of activity. The pain has steadily worsened, despite home application of ice and taking over-the-counter medication for pain control.

Objective Orthopedic and Neurological Findings

A slight forward antalgic position is detected. Lumbosacral range of motion is cautious with flexion, extension, right and left rotation. Static palpation reveals hypertonicity of the right low back musculature. Motion palpation is restricted in the right sacroiliac joint (SI) and lumbar region. Yeoman's test (passive knee flexion to 90° along with thigh extension) is positive for SI pain. Kemp's test is positive for bilateral, localized lower lumbar pain. Hyperextension test produces local lumbar pain. The neurologic exam reveals normal responses to dermatomes, myotomes and deep tendon reflexes. Valsalva maneuver is negative.

Radiology

A-P and lateral lumbosacral radiographs reveal no abnormalities. There is early evidence of mild degeneration occurring at the L4, 5 vertebrae with minimal disc thinning at L4, 5 and L5, S1.

Clinical Impression and Working Diagnosis

Acute lumbosacral strain/sprain injury with muscle spasm impacting the SI joint and other localized joint regions.

Treatment

Acute Phase -- 2 to 5 days

- adjustments to the SI and lumbosacral regions and lower extremities
- ice and physiotherapy to reduce swelling, inflammation

Repair Phase -- 4 to 6 weeks

- adjustments to the SI and lumbosacral regions and lower extremities
- stabilizing orthotics to support the pedal foundation
- rehabilitation exercises to stretch and strengthen injured musculature

Remodeling Phase

- chiropractic adjustments (decreased frequency)
- home rehab program for remodeling and strengthening of injured area(s) and postural faults

Discussion

It is always important to check the arches of the feet and the lower extremity joints. This patient's past adjustments were not holding, and his body was not stabilizing because his collapsed arches were negatively affecting the axial kinematic chain, causing bones to slip out of alignment from the feet up to the lumbar spine. Individually designed Stabilizing Orthotics will help to not only stabilize the body, but prevent re-injury in musculoskeletal areas previously susceptible to weakness and/or distortion.

