

[IMAGE]

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## **Management of Sacroiliac Strain -- A Conservative Approach to a Clinical Enigma**

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Sacroiliac strain is described by a painful stretching of the ligaments about the sacroiliac joint. Some controversy surrounds this description because the sacroiliac ligaments are very strong, and the related movements involved in this joint range of motion are considered by some authors to be more inclined to strain the thinner capsular ligaments of this small joint. However, bending, lifting, and hyperextension of this joint are motions capable of producing a torsion strain resulting in the clinical presentation of an acute onset with tenderness over the joint, accentuated by palpation. Clinical performance of Gaenslen's sign reproduces the effect of the strain and the respective pain.

Strain of this joint may be favored by the soft tissue hormone softening effects of pregnancy, by lifestyle, or occupational performance of long periods of bending and lifting. Especially when these activities are performed in a manner not characteristic of proper spinal biomechanical conduct, strain is apt to occur. Strain of this joint may also be enhanced by the clinicopathological effects of degenerative arthritis. Commonly, this condition presents with the inability to straighten up to an erect position after having bent over (stooped). This effect more commonly follows having bent over from the waist, rather than kneeling down by using the knees, with the result that the low-back musculature is used instead of the strong leg muscles. Accordingly, the point of fulcrum lies in the low back rather than the knees, where it belongs. While the sacrum is rotated backward, the hip flexors hold the ilium forward. Also, the hamstrings and gluteus maximus may extend the hip and rotate the ilium backward, while the sacrum is being held forward by the trunk weight. This biomechanical theorem is supported by the presence of an associated postural defect as a common finding.

Commonly, the pain of the sacroiliac strain is relieved by sitting, recumbency, or by the application of a sacroiliac support.

A recommended therapeutic approach to sacroiliac strain is limited bed rest involving a firm mattress supported by a bed board between the mattress and box springs, and a strong, firm, elastic bandage with Velcro closure which envelops the pelvis just below the level of the iliac crest. When not wearing the support during the first 48 to 72 hours, moist cryotherapy may be applied to the involved sacroiliac joint for a sufficient time period in which to reduce traumatic edema and reduce nerve conduction velocity time. This is usually about 10 to 15 minutes and may be governed by the absence of cyanosis of tissue in the area of cryotherapeutic application. Tissue pallor is to be expected. Immediately following cryotherapy, moist, warm infrared therapy may be applied ensuring that the patient does not place the device under the body. This would compress cutaneous capillaries due to body weight and interfere with the cooling effect of the arteriovenous circulation. A reminder at this point that erythema ab igne constitutes a warning of impending tissue thermal injury in such cases. A popular approach in physical medicine includes the application of pulsed cortisone (0.5%)/lidocaine (2.5%) phonophoresis with 0.75W/cm<sup>2</sup> for ten minutes to the strained region, b.i.d., or p.r.n. for pain and restoration of range of motion (ROM). Phonophoresis may be more suitable in the presence of evidence of local degenerative changes. As soon as the patients' clinical status will allow, they should be encouraged to become gradually more ambulatory. The sooner joint ROM is re-established, the sooner the joint will enjoy pain-free function. Also, healing by areolar tissue, rather than collagenous tissue, as is desired, is enhanced by restoration of mobility as soon as possible.

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