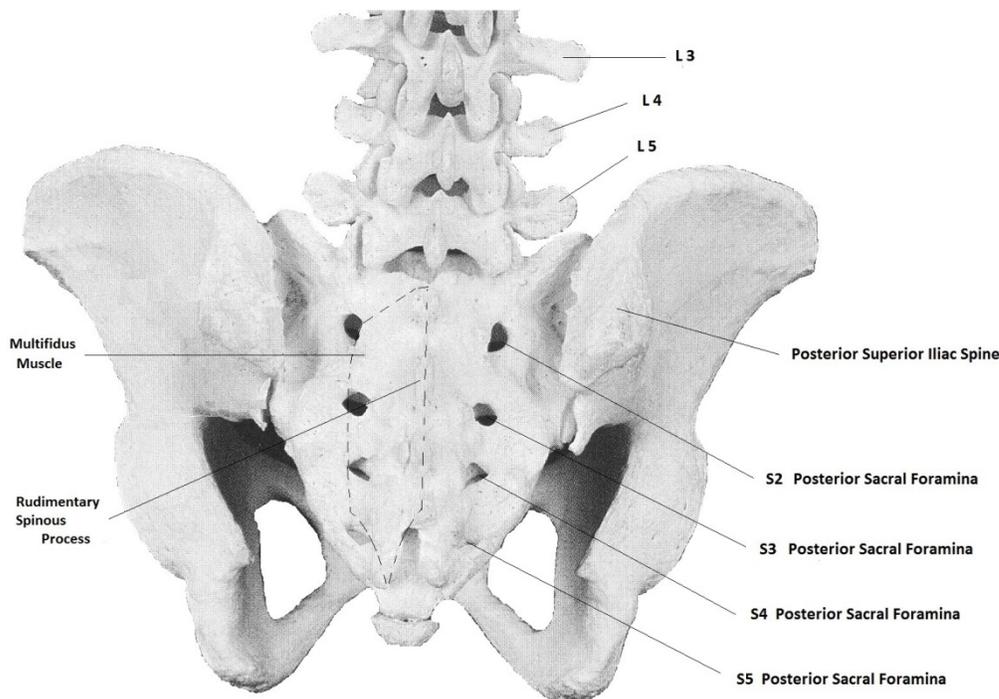


SACRUM SYNDROME

The sacrum is a relatively large, triangular bone, situated as a dorsal feature of the pelvis. Its superior base articulates with the fifth lumbar vertebrae, and its distal apex articulates with the coccyx. Its central ridge (the middle sacral crest) is comprised of three or four rudimentary spinous processes of the first three or four sacral segments. Lateral to the central ridge, and situated between the sacral segments, four rounded ventral sacral foramina occur. From these *exit* the ventral divisions of the sacral nerves and *enter* the lateral sacral arteries. On either side of the central ridge a shallow groove (the sacral groove) is formed by the united laminae of the corresponding “vertebrae”. This serves as the origin of some of the multifidus musculature. The erector spinae and the latissimus dorsi muscles have part of their origins from the middle crest as well.

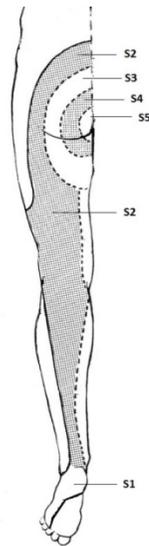


The posterior skeletal sacrum viewed in its relationship to the lower lumbar vertebrae and the pelvic bones

The *sacral syndrome* was named because of the characteristic inflamed zone that appears over all or part of the posterior sacral foramina, either unilaterally or bilaterally. Patients afflicted with the *Sacrum Syndrome* complain of intense, sharp (sometimes described as *exquisite*) pain, occurring throughout (following the “sciatic” pattern) or isolated somewhere within the cutaneous innervation of the sacral nerves. The pain involved becomes most apparent when a particular bodily function is attempted by the particular patient involved. These functions may include *standing up, taking a step, rolling over in bed, defecating, or even urinating while standing* (and sometimes together in various combinations). The pain may occur unilaterally or bilaterally, corresponding to the DSR demonstrated inflamed zones. Most commonly, patients with isolated complaints (not following the full sacral nerve distribution) complain of low back pain, anal pain, or pain in the posterior hip area, especially when

standing. Observation suggests that the symptomology may be exacerbated, when the patient goes to standing, by the weight of the patient's posterior "hide" sliding down onto adhesions affecting a nerve root or roots.

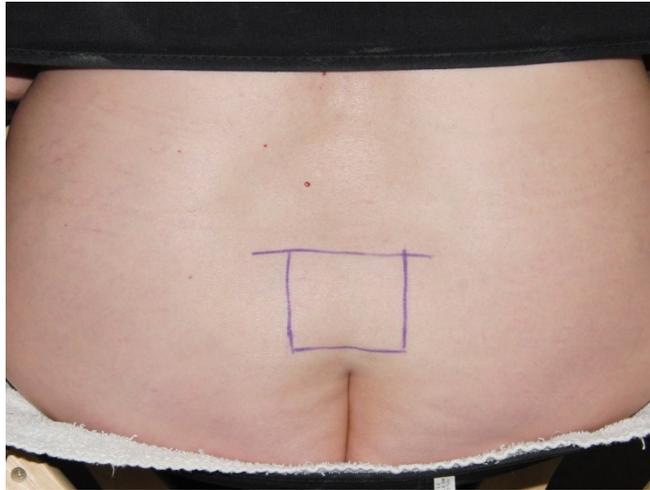
The etiology of this syndrome is unknown, but a direct cause may include a blow to the area, unremitting pressure (as in sitting with the low back against a hard surface), or some kind of selective strain of the multifidus muscle(s) in the area.



The pain pattern associated with the Sacrum Syndrome occurs within the pattern of cutaneous innervation of the sacral nerves and varies according to which nerve roots are most impinged



The high skin resistance pattern commonly associated with unilateral inflammation over the left lateral Sacrum



The high skin resistance pattern commonly associated with bilateral inflammation over the Sacrum

Treatment

Treatment must focus on reducing inflammation and swelling in the involved tissues, as well as eliminating any adhesions that may be present.

Application:

- Preset an ultrasound unit to deliver a 1 or 3.3 MHz pulsed waveform, at a pulsed rate of 50%, at an amplitude of 2.0 W/cm^2 . With the patient sitting, ultrasound the inflamed zone, utilizing an effective non-steroidal anti-inflammatory as a coupling agent, for six minutes.
- With the patient sitting, manipulate the tissues in and around the inflamed zone to eliminate any adhesions that may be present.
- Twenty minutes after the first ultrasound, preset the ultrasound unit to once again deliver a 1 or 3.3 MHz pulsed waveform (at a pulsed rate of 50%), at an amplitude of 2.0 W/cm^2 . This time with the patient either standing or lying fully prone, apply

the ultrasound to the inflamed zone, utilizing an effective non-steroidal anti-inflammatory as a coupling agent, for six minutes.

- With the patient either standing or lying fully prone, manipulate the tissues in and around the inflamed zone to eliminate any adhesions that may be present.
- Apply cold laser (with or without simultaneous electrical stimulation provided by the laser applicator) to the inflamed zone, for approximately 6 minutes. This is performed to “cool off” the manipulated zone by

effectively halting the production of prostaglandins (or facilitating enzyme destruction of **all** inflammatory being produced) by the stressed tissues.

- Apply mechanical vibration, delivered at 60 to 120 Hz into the inflamed zone, for two minutes. Apply the vibration at a relatively high but tolerably comfortable level for the patient. This is performed to increase capillary circulation in the involved tissues.

All symptomology may disappear immediately, if all adhesions in the area have been eliminated, through soft tissue manipulation. However, the symptomology may return if adhesions inadvertently reform or if a causative agent (whatever that may be) occurs again.

Post Treatment Suggestions:

Since the etiology of the *Sacrum Syndrome* is currently unknown, little or no advice can be proffered to the patient. It would be smart, however, to advise the patient to avoid blows or direct pressure into the soft tissues over the sacrum, for two weeks (time enough to outlive the effects of bradykinin). This should include avoiding sitting with the sacrum pressed against the back of a hard seat or chair.

Have the patient return for re-evaluation within the next day or two. If the DSR evaluation is negative, be sure to manipulate the tissues in and around the previously inflamed zones to check for any recurrent adhesions (adhesions will sometimes occur for a short period after the inflammation is gone).

Trigger Points

The following trigger point formations may, singly or in combination, imitate or contribute to the pain associated with the *Sacrum Syndrome*: Multifidus (S4), Longissimus thoracis (T10-T11), Multifidus (L2-L3), Multifidus (S1-S2), Iliocostalis lumborum (L1), Lower (caudal) rectus abdominis, Gluteus medius, Gluteus minimus, Biceps femoris, Gastrocnemius, and Soleus.