

SACRAL-ILIAC (S-I) JOINT SYNDROME

Of all the sources of *sciatica*, the *sacral-iliac (S-I) joint syndrome* is the least well documented. The structural arrangement that makes this syndrome possible is marginally obscure, but clinical experience suggests the ligamentous attachment between the sacrum and the pelvis and the close proximity of the sciatic plexus as it passes through the posterior aspect of the pelvis is responsible. The syndrome itself generally results from lifting and twisting at the same time, which apparently overstretches one of the sacral-iliac ligaments. The resulting inflammation process may produce enough pressure on the sciatic plexus, through interstitial swelling and adhesion formations to produce the classic symptoms of *sciatica*. These may include

localized pain in the lumbosacral area, pain along the sciatic nerve distribution down the back of the leg and into the foot, or numbness along the same distribution and into the big toe. DSR survey typically demonstrates high skin resistance distal to the S5 sacral nerve root and lateral to the other remaining four sacral foramina. It also extends out along the path of the sciatic nerve.

Sometimes the zone will extend along the path of the sciatic nerve for up to eight centimeters. Some observable swelling is usually present in and around the inflamed zone. Most commonly, the *S-I joint syndrome* occurs on only one side, but it can occur bilaterally.



The high skin resistance pattern commonly associated with inflammation of the Sacral-Iliac (S-I) Joint

Treatment

Treatment of S-I joint syndrome revolves around reducing any inflammation and swelling, eliminating any adhesions, and teaching the patient how not to recreate the injury.

Application:

- In the **acute** case, icepack the inflamed zone for 10 minutes. Alternatively, for the **chronic** case, *without swelling*, electrically stimulate the inflamed zone. Place a negative electrode over the involved S-I joint, and a positive electrode over muscles in the midback area. Preset an electrical stimulation unit to deliver a visible contraction, at 7 Hz. Stimulate for 10 minutes. Then, set the unit to deliver a medium frequency current, with a duty cycle of 10-seconds on and 10-seconds off, sufficient to produce a near tetanic contraction of the involved muscles. Stimulate for 10 minutes.
- In either case (acute or chronic) manipulate the soft tissues in and around the involved S-I joint, to eliminate any adhesions that may be present.
- Preset the ultrasound unit to deliver a 1 MHz pulsed waveform, at 1.5 W/cm². Ultrasound the inflamed zone utilizing an effective non-steroidal anti-inflammatory as a coupling agent, for six minutes.
- Place a positive electrode over the S-I joint, and a negative electrode over muscles in the midback area. Preset the electrical stimulation unit to deliver a visible contraction at 7 Hz. Stimulate for 20 minutes.

The following treatment form has also proven to be effective.

Variation:

- Preset the ultrasound unit to deliver a 1 MHz pulsed waveform, at 1.8 W/cm². Ultrasound the inflamed zone, utilizing an

effective non-steroidal anti-inflammatory as a coupling agent, for six minutes. This procedure is designed to soften the adhesions that may be present.

- 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 deliver a 1 MHz pulsed waveform, at 1.5 W/cm². Ultrasound the inflamed zone, utilizing an effective non-steroidal anti-inflammatory as a coupling agent, for six minutes. This is performed to “cool off” the manipulated zone by effectively halting the production of prostaglandins by the stressed tissues.
- Apply mechanical vibration, delivered at 60 to 120 Hz into the S-I joint, 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 issues.

All symptomology may disappear immediately, if all adhesions in the area have been eliminated, through soft tissue manipulation. However, continued relief of the syndrome will depend on the patient being able to prevent twisting of the pelvis.

Encourage the patient to avoid twisting during daily activities such as getting into cars, lifting anything, reaching for things, getting on and off chairs and beds, and avoiding twisting during sleep. Essentially, the patient must keep the knees, hips and shoulders facing the same direction at all times, for at least two weeks. The tissues need that time to return to normal toughness.

When getting into cars, instruct the patient to sit on the car seat first and then bring both legs into the car together; when getting out, take both legs out of the car together and then stand up out of the seat. Avoid reaching behind the seat of the car, and don't twist at the waist when looking over the shoulder. Conduct any lifting with the object right in front of the patient with the pelvis “squared” forward. Do not reach for anything that requires lateral flexion of the trunk. Avoid stairs if possible, but if they must be negotiated, take it slowly and with the help of a railing, if available. If side-sleeping,

keep the legs parallel, one on top of the other; putting one leg out in front of the other will cause twisting of the pelvis. A pillow kept between the knees may be helpful in maintaining the parallel leg position.

Have the patient return for re-evaluation within the next day or two.

If the patient is successful in being able to avoid twisting the pelvis for the following two weeks, the condition may be “cured”. It should be noted, however, that the patient will remain injury prone, because of a relatively “loose” pelvis. This is a direct result of overstretching the ligament. An overstretched ligament will never shrink back to its former length. This means that the chance of reinjury will remain high, and the patient should

habitually avoid any unnecessary twisting while lifting.

Trigger Points

The following trigger point formations may, singly or in combination, imitate or contribute to the pain associated with the *sacral-iliac (S-I) joint syndrome*: Multifidus (S4), Longissimus thoracis (T10-T11), Multifidus (L2-L3), Multifidus (S1-S2), Iliocostalis lumborum (L1), Caudal (lower) rectus abdominis, Gluteus medius, Gluteus minimus, Adductor longus, Biceps femoris, Vastus medialis, Gastrocnemius, Anterior tibialis, Long toe extensors, Soleus, Peroneus longus, Short toe extensors, and Abductor hallucis.