**SCIATIC CHANNEL SYNDROME**

The sciatic nerve arises from the L4, L5, S1, S2, and S3 nerve roots to form the main part of the sacral plexus. It passes through the greater sciatic foramen, and extends from the inferior border of the Piriformis to the distal third of the thigh. This is where it bifurcates into the tibial and common peroneal nerves. As it passes down the posterior lateral aspect of the thigh, it lies over the Adductor Magnus and is crossed obliquely a third of the way down the thigh by the long head of the Biceps Femoris. There is the surface appearance of a shallow concavity that runs down the posterior lateral aspect of the thigh, very near to where the Sciatic nerve must be passing. DSR survey has demonstrated that this pathway (what the author defines as the *Sciatic Channel*) may become inflamed.

![Image of a leg with a marked area representing the Sciatic Channel](image)

*The high skin resistance pattern commonly associated with inflammation of the Sciatic Channel*

If the Sciatic Channel is inflamed, the patient may complain of dull aching pain in the low back, in and around the hip joint, down the back side of the thigh, in and around the knee, and down the lateral aspect of the calf to the ankle (much like classic “sciatica”). Individuals may complain of pain in the complete pattern, or in just one or two of the involved areas. Patients rarely complain of numbness. The most common complaint is of restricted hip and knee ranges of motion (especially hip flexion with external rotation). The latter complaint seems to be associated with a peculiar set
of inflammation patterns found over the proximal and distal aspects of the Rectus Femoris muscle (as illustrated below). These inflamed zones have been named by the author as the Rectus Components. They are generally only found in association with Sciatic Channel inflammation and will only appear with the knee flexed to 90\(^\circ\). It should be said, however, that Sciatic Channel inflammation may occur without the appearance of the Rectus Components and the Rectus Components may appear without Sciatic Channel inflammation being present, though very rarely.

![Image of inflamed Rectus Components](image_url)

**Treatment**

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

**Application:**

- Place a negative electrode over the Sciatic Channel and positive electrodes, split leaded, over the Rectus Components (if present). If the Rectus Components are not present, place a positive electrode over the central segment of the rectus femoris muscle. 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 a 10 minutes.

- Manipulate the soft tissues in and around the inflamed zones to eliminate any adhesions that may be present. Manipulate the Sciatic Channel and/or Rectus Components with the knee flexed to 90\(^\circ\).
and then fully extended. It has sometimes been found expeditious to manipulate the Sciatic Channel with the patient lying prone, the knee fully extended first and then flexed to 90°.

- Preset the ultrasound unit to deliver a 1 MHz pulsed waveform, at 1.5 W/cm². Ultrasound each inflamed zone, utilizing an effective non-steroidal anti-inflammatory as a coupling agent, for six minutes each.

- Apply mechanical vibration, delivered at 60 to 120 Hz to the Sciatic Channel, for two minutes. Apply the vibration at a relatively high but tolerably comfortable level for the patient.

*The following treatment forms have also proven to be effective.*

**Variation:**

- Preset the ultrasound unit to deliver a 1 MHz pulsed waveform, at 1.8 W/cm². Ultrasound each inflamed zone, utilizing an effective non-steroidal anti-inflammatory as a coupling agent, for six minutes each. This procedure is designed to soften the adhesions that may be present.

- Manipulate the tissues in and around the inflamed zone(s) 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 each inflamed zone, utilizing an effective non-steroidal anti-inflammatory as a coupling agent, for six minutes each. 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 Sciatic Channel 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.

**Variation:**

- Preset the ultrasound unit to deliver a 1 MHz pulsed waveform, at 1.8 W/cm². Ultrasound each 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(s) to eliminate any adhesions that may be present.

- Apply cold laser (with or without simultaneous electrical stimulation provided by the laser applicator) to each 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 of the inflammatories being produced) by the stressed tissues.

- Apply mechanical vibration, delivered at 60 to 120 Hz into the Sciatic Channel, 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 involved areas have been eliminated through soft tissue manipulation. However, continued relief of the syndrome will depend on the patient being able to avoid sitting on hard surfaces for two weeks. All seats should be well padded. For example, leather car seats and “economy” airline seats are too hard. In general, restaurant seating is almost always too hard. The patient should be advised to carry a portable soft pad (like the portable pads designed for use at ball games and bleacher seating) to sit on when appropriate.

Have the patient return for re-evaluation within the next day or two. If the patient successfully avoids “hard seating” for the following two weeks, the condition may be “cured”. Individual patients may have unusually “sensitive” rear ends, and may have to confine themselves to “soft seating” for a more extended period, sometimes for months, as
trial and error self-testing dictates (i.e., if “hard seating” seems to bring back the condition, go back to “soft seating”).

Trigger Points

The following trigger point formations may, singly or in combination, imitate or contribute to the pain associated with the *Sciatic Channel 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.