DEALING WITH LUMBAR DISCOGENIC SYNDROMES USING SACRO-OCCIPITAL TECHNIQUE

By Dr Roz Griffiths

Many chiropractors do not feel equipped to deal effectively with patients presenting with disc-like symptoms. This article is based on an article published in the Journal of Chiropractic Medicine (7), Dr Rosina Walker's case study and the SOT Categories Manual.

SOT is a chiropractic technique that treats all patients within a three-category system:

- Category I: Designed to deal with the Primary Cranial Sacral Respiratory Mechanism (PCSRM). The PCSRM is a system of functional support for the central nervous system. (1–3).
- Category II: Designed to deal with systemic weight-bearing problems expressed through the weight-bearing portion of the sacroiliac joint. (1–3).
- Category III: Designed to address lumbopelvic problems primarily discogenic in nature. (1–5)

Selecting the category most in need is based on a series of indicator tests and SOT principles. While a patient's symptoms do not

necessarily define the category, sciatic problems (referred pain into the right or left buttocks/lower extremity) usually are consistent with Category III findings (called Indicators).

Category III Indicators

The Category III Indicators are as follows:

- In a standing plumbline analysis with the eyes closed there is limited movement, a possible antalgic lean, and a possible lateral spinal curvature. There may be no lean or curvature especially in cases of severe disc damage (herniation). (1,2,4)
    a. NB. If antalgic, not whether it is away from or towards sciatic symptoms.

- In a standing position the first rib and first thoracic articulation is negative for unilateral tenderness, swelling and/or lack of movement on forward head flexion. Lack of movement may be present bilaterally. (1,2)

- Mind Language testing: The patient's R arm will weaken when touching the left styloid process reflex point.

- Cervical compaction test: The supine patient will be unable to lift both legs off the table.

- Negative arm fossa test.

Additional:

- There must be a leg-length differential in the prone position. (1,4)

- The “Step Out Toe Out” (SOTO) test should have some finding consistent with the patients symptoms. The SOTO maneuver is made to help determine the causative factor in sciatic pain (Table 1).

- Possible unilateral psoas muscle contraction on the side of spinal lean or spinal curvature. Tested by tractioning the patient's arms superiorly, with the patient in a supine position, looking for a unilateral ribcage and shoulder girdle restriction. (1–4)

- Often, Category III patients have tenderness on palpation of the inferior lumbar spinous process along with limitation of the Straight Leg Raise Test bilaterally (hamstring tightness) or with sciatica pain unilaterally (side of involvement).

A detailed table is provided at the end of this article for your reference.

The Category III Adjusting Procedure is as follows:

1. The Psoas muscle technique if indicated. The psoas muscle is adjusted (with the patient in the supine position) on the contracted side by goading the abdominal tissues while bringing the bent knee on the involved side toward the midline. (1,2,4)

2. Acetabular adjusting procedure prone if indicated. Goading the greater trochanter while rotating the patients lower leg. Done on the side of greater resistance on external rotation on the foot in the prone position. (Figure 4) (1,2,4)

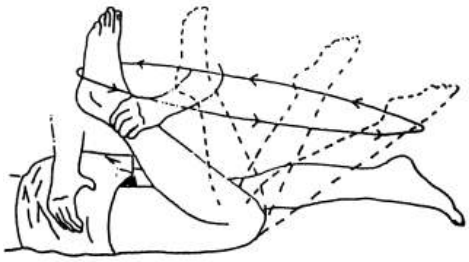

Figure 4. Acetabular adjustment.

3. The Category III Blocking procedure. The block on the short-leg side is placed under the acetabulum, pointing oblique down to the other side. The block on the longer leg is placed under the ASIS also facing oblique downward to the other side (Figure 3). (1,2,4)

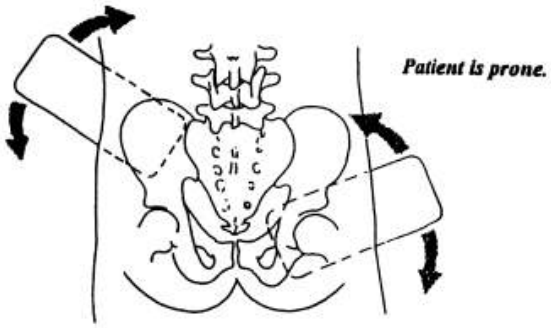

Figure 3. Category 3 blocking position for a right short leg.

4. SOTO Technique (Figures 1,3, Table 1) (1,2,4)
   The SOTO maneuver is accomplished by grasping the knee of the prone patient with 1 hand, and the ankle with the other. Abduct the patient's leg slowly until the hip on that side begins to elevate from the table and/or resistance is met, then externally rotate and dorsiflex the foot making sure that the foot is at the same level as the pelvis (Figure 2).

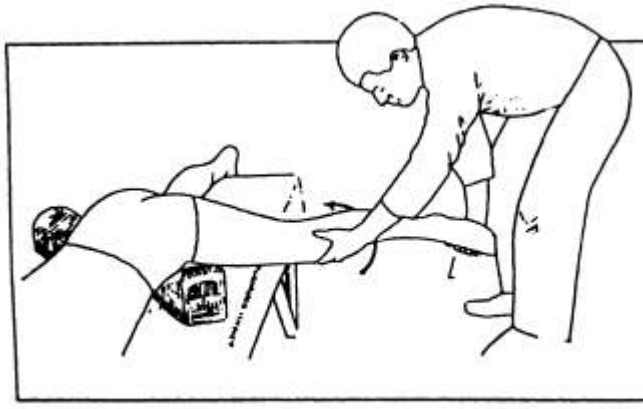

Figure 2. SOTO procedure on blocks.

The SOTO adjustment is done as the patient is lying prone on the blocks, every two minutes (three times maximum), or until relief and/or motion is improved (usually in one application). As SOTO is reapplied, note the changes in the response both subjectively (level of pain intensity) and objectively (movement of femoral head within the acetabular cavity) (1,2,4)

5. Disc Technique. (1,2) (Figures 5,6) Disc Technique is done with the patient sitting approximately two feet from the wall, facing the wall. They place their toes up against the bottom of the wall. The doctor makes contact with his or her thumb at the inferior tip of the spinous process of 5th lumbar. The patient then goes into flexion of the lumbar spine (Figure 5), pulling the abdomen in while arching the spine back (from lordosis to kyphosis). The doctor maintains a holding pressure in the superior direction on the spinous process of Lumbar 5. The patient then moves into extension of the lumbar spine (Figure 6); pushing the abdomen out while arching the spine in (From kyphosis to lordosis). The Doctor maintains a holding pressure in the anterior direction on the spinous process. Do not hold the thumb in the superior direction on extension; make sure it is directly pointing anteriorward. Repeat this process approximately three times, while at each lumbar vertebra. (1,2)

Figure 5. Disc technique (flexion).

Figure 6. Disc technique (extension).

Lumbar Disc Technique Case Study

As the patient moves into flexion, the interspinous spacing should increase. As the patient moves into extension, the interspinous spacing should decrease. (1,2) Limitation of interspinous spacing on lumbar flexion can

indicate a possible compressed spinal area that needs to be addressed with further disc technique. Improvement of interspinous spacing in flexion of the lumbar spine along with anterior movement on extension is ultimately what is desired. Restoration of what is considered normal movement of the lumbar spine (flexion and extension) (6) in conjunction with improvement of the SOTO findings, is usually consistent with improvement of the patients symptoms.

Case Study by Dr Rosina Walker

A 62-year-old man presented to my practise in December 2020 with right-sided sciatica that radiated to his right calf. The sciatica had been present for approximately two weeks since he bent forward and twisted while playing golf. He described the pain as constant, increasing when he lay supine, sitting or lying on his right side.

He had recently had a Left Total Hip Joint Replacement (THJR), in June 2020, and was back playing golf twice a week. He was taking Tramadol prescribed by his GP for sciatica.

On the physical exam he appeared to have a right short leg prone/supine following the THJR surgery. He had seen a physiotherapist post-surgery who had fitted him with a left heel lift without measuring his leg, or any X-rays to look for Leg Length Inequality (LLI). Lumbar flexion was limited to his hips with pain, and left lumbar flexion was limited to 20 degrees with pain. Tender to palpation and oedema over his left SI joint, decrease joint play Rt L4/5 & L5/S1, and Lt sacrum.

Muscle tests: Decrease bilateral psoas and left glut med muscle strength at 4/5.

Orthopaedic Tests: +ve Lt SLR at 15deg and Rt SLR at 45deg. Indicative of S.I. joint strain.

Neurological testing: All DTRs and dermatomes were WNL.

In SOT technique this patient also had other positive physical findings for a Category 2 S.I. Joint strain.

I adjusted him for a Category 2 S.I. joint strain, and used Kinesiotape to further help stabilise his S.I. joint.

Over the following four visits, the patient recovered well, with a marked decrease in his symptoms. He followed his exercise plan to further strengthen and stabilise his spine, and was back playing 18 holes of golf.

Over New Year, he was bending over to put his shoes on to play golf, his foot up on a chair and twisted. Onset of immediate and severe pain. An ambulance was called and the patient was given fentanyl and ketamine to settle his pain. Admitted to hospital for two days,

Lumbar X-Rays and C.T. Scan showed Lt Hip trochanteric Bursitis & an L3/4 disc protrusion.

He was discharged with multiple pain medications and on crutches for mobilisation. When he returned to my practice on 7 January 2021, he was still on crutches and his pain level was 8/10. He presented with Left low back and sacroiliac joint pain radiating to anterior Left thigh.

Physical findings were similar to his last presentation, however he also presented with Lt antalgia. On this visit he was a Category 3, with Lt sciatica, tenderness over Lt posterior greater trochanter and medial gastrocnemius, decrease joint play and tenderness over Rt L3/4 & L4/5.

After using the SOT Category 3 blocks, his pain started to decrease, although he was still experiencing sciatica. I performed a S.O.T.I. Category 3 adjustment. This further decreased his pain levels, although his sciatica had not gone completely. I repeated this adjustment a couple of times, and then the C.O.T.I. Category 3 adjustment. By then, his pain levels had reduced to 4/10.

Following the sitting disc technique as mentioned earlier in this article, he was feeling a lot more comfortable. As he also showed symptoms and evidence of a further Category 2 S.I. joint strain, I gave him a Serola S.I. belt to further stabilise his pelvis.

Over a series of six visits his pain levels decreased to 1-2/10, with most of his pain centred over his greater trochanter. I referred him for Low Level Laser Therapy to help with the trochanteric bursitis. His previous Lumbar x-rays also showed a large pelvis rotation due to having a short Rt leg, from his Lt THJR surgery. I gave him further exercises to help stabilise his spine. He returned to see the orthopaedic surgeon that had performed the surgery who could not tell him why he had got the trochanteric bursitis over his new hip, or why his Rt leg is so much shorter than his Lt.

After discussion with his GP she referred him to have his Rt shoe built up to level his sacrum.

He is now back playing golf two times a week, but wearing his S.I. belt, and stretching before and after his games.

Learn More about SOT

To understand this technique further, SOTO NZ organises a Categories seminar. The next dates are 15-16 May 2021.

For more information see our website: https://soto.nz/

References:

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TABLE 1
SOTO ANALYSIS

	SYMPTOMS	SOTO NO BLOCKS	DIAGNOSIS	SOTO ON BLOCKS	PROGNOSIS
1	POSSIBLE HIP PAIN OR NO PAIN	LIMITED SOTO ABILITY UNILATERALLY POSSIBLE HIP PAIN	TROCHANTERIC	IMPROVES ON BLKS WITH REPEATED SOTO	GOOD, SHOULD IMPROVE STEADILY
2	POSSIBLE HIP PAIN AND/OR SCIATIC PAIN	LIMITED SOTO ABILITY UNILATERALLY POSSIBLE PAIN SCIATIC AND/OR HIP	PIRIFORMIS	IMPROVES ON BLKS WITH REPEATED SOTO	GOOD, SHOULD IMPROVE STEADILY
3	SCIATIC PAIN OR JUST LUMBAR, LUMBOSACRAL PAIN. LEAN ON OPPOSITE SIDE OF SCIATIC IF PRESENT	POSSIBLE PAIN ON SOTO (AS PER SYMPTOMS)	LUMBAR SUBLUXATION INFERIOR TILT OR BODY ROTATION TO SIDE OPPOSITE SCIATICA	USUALLY IMPROVES SOMETIMES NO CHANGE IN SOTO UNTIL AFTER LUMBAR ADJUSTMENT	GOOD, SHOULD IMPROVE STEADILY
4	LUMBOSACRAL AND/OR SCIATIC PAIN SAME SIDE AS LEAN	PAIN ON SOTO (AS PER SYMPTOMS)	NERVE ROOT COMPRESSION FRAGMENTED DISC OR HERNIATED DISC	PAIN WORSE OR SAME WITH REPEATED SOTO	GUARDED, IMPROVEMENT SLOW IN MOST CASES
5	SCIATIC PAIN BUTT AND LEG (+ CALF) NO LEAN	PAIN (AS PER SYMPTOMS) OR NO PAIN ON SOTO. COULD HAVE CALF PAIN	NUCLEUS HERNIATION	NO CHANGE	GUARDED, IMPROVEMENT SLOW IN MOST CASES.