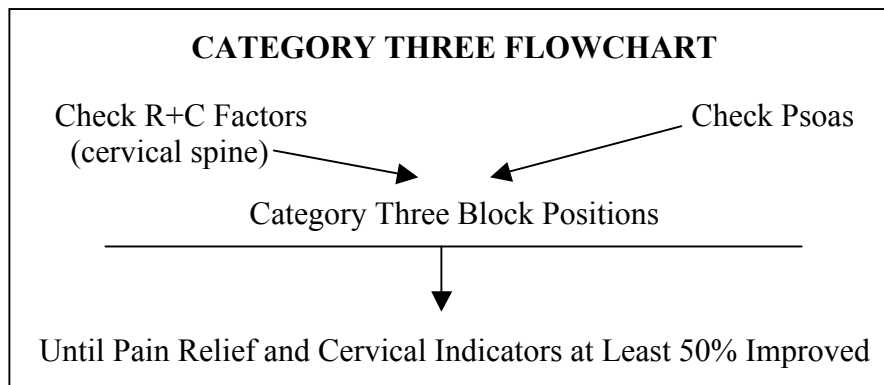


Managing Acute Low Back Patients

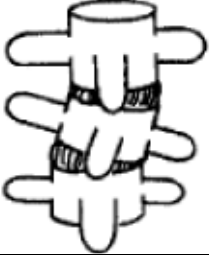
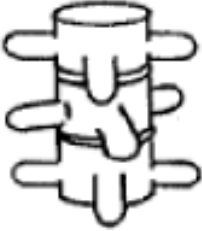
Charles L. Blum, DC

Imagine a scenario where a patient walks into the clinic or your office in acute pain. They are grimacing in pain, antalgic, and guarded in all movements. You barely are able to take their vital signs, and their neurological and orthopedic examinations are difficult to perform due to their severe apprehension. A radiograph or MRI finds no fracture or osteopathy but possibly some degree of discopathy. What are you going to do?

The following is an Emergency Sacro Occipital Technique (SOT) group of procedures (Category 3)¹ that you can use confidently with patients who have acute low back pain. If the indicators you use do not improve during your treatment, either your determination of the indicators is improper or there might be serious pathology that was undetected and extreme caution should be exercised.² Usually, clinically I have found that at least 95% of my patients respond favorably to the following protocols.³⁻⁵



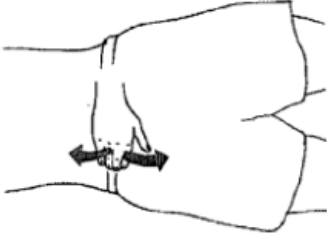


Many chiropractic methods have noted a relationship between the cervical and lumbar spine. Some have called this relationship “Lovett Brothers,” “Halfwit Brothers,” and in SOT, “R + C Factors” (Resistance + Contraction).⁶ Essentially while the relationship between distal ends of the spine has not been conclusively proven, there have been theories relating to meningeal relationships and clinically there have been positive outcomes using each part of this “dynamic unit” to monitor each other. Therefore, the patient’s cervical spine will be used to help gain some indication as to lumbar dysfunction or tension patterns which should resolve during the course of treatment.^{1,6} These indicators can also facilitate the doctor’s ability to treat the patient and aid in improving function and relieving acute pain.

R + C Factors ¹	
Resistance & Contraction (R + C) Factors are reflex indicators used to identify vertebral rotation and lateral flexion malpositions of the lumbar spine. Each lumbar vertebra has a corresponding Lovett Brother ⁶ indicator in the cervical spine.	L5 → C1 (or Styloid Process) L4 → C2 L3 → C3 L2 → C4 L1 → C5
	Inferiority of the lumbar transverse process is indicated by tenderness of the ipsilateral spinous process of the corresponding cervical vertebra. Exception: The indicator for inferiority of L5 is the ipsilateral styloid process, not C1.
Rotation of the lumbar spinous process is indicated by tenderness of the transverse process of the ipsilateral corresponding vertebra.	

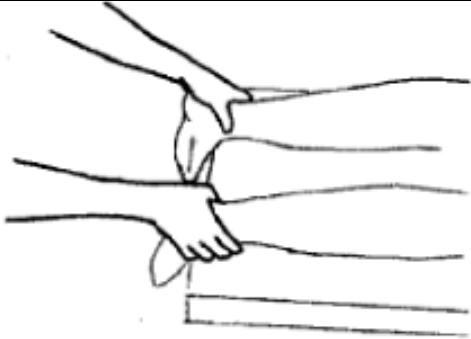
When a patient presents with an anterior antalgic lean centrally, or to either side then the psoas muscle, with its attachments to the lumbar region will be evaluated. One-way of monitoring the treatment will be with the “overhead arm check.” This overhead arm check helps to lift the rib cage off the pelvis and most commonly the limiting factor will be the iliopsoas muscle(s). Infrequently you might have a bilateral condition or contributing quadratus lumborum, diaphragm crura, rib or shoulder dysfunction that might limit arm extension. Sometimes the patient will have so much pain, they will not be able to be supine on the treatment table, to allow for the technique of releasing the psoas. If that is the case then the psoas release will need to be performed on the next office visit or while they are prone.

SOT Psoas Technique ¹

	<p>Diagnosis: With the doctor standing at the head of the table the patient extends their arms above their head, hands together, fingers straight. Doctor grasps wrists, tractioning the arms until straight, and while maintaining traction compares fingertips. Short arm side is the side of the contracted psoas. The picture on the left indicates a right psoas involvement due to right hand appearing shorter than the left.</p>
<p>Treatment (Right Category 3 Psoas): The patient is supine with the leg flexed on the side of the shortened psoas with the doctor standing on the opposite side. Doctor's superior hand's fingertips gently and slowly deeply contact the psoas just lateral to the linea alba near the psoas attachment at the anterior lumbar spine. The inferior hand supports the patient's flexed knee bringing it medially to feel psoas "connection."</p>	
	<p>Treatment (Right Category 3 Psoas): The adjustment is complete when the psoas tissues relax and the leg easily moves medially. The fingertips of the superior hand move in a semicircle, from superior to inferior working the psoas fibers laterally and the knee is brought medially.</p>

Once cervical indicators are determined (if present) and psoas contracture cleared (if present) then the patient will be placed prone and leg lengths are determined. SOT protocol recommends 30 seconds of traction on the legs with the traction maintained while the medial malleoli are brought together and evaluated. The blocks are then used biomechanically to help reduce pelvic torsion ⁷ in a specific manner to release any stress patterns in the disc or lumbosacral region. ^{8,9} Usually the blocks are placed according to what reduces any pain provocation. ¹⁰

Category 3 Leg Length and Block Placement ¹



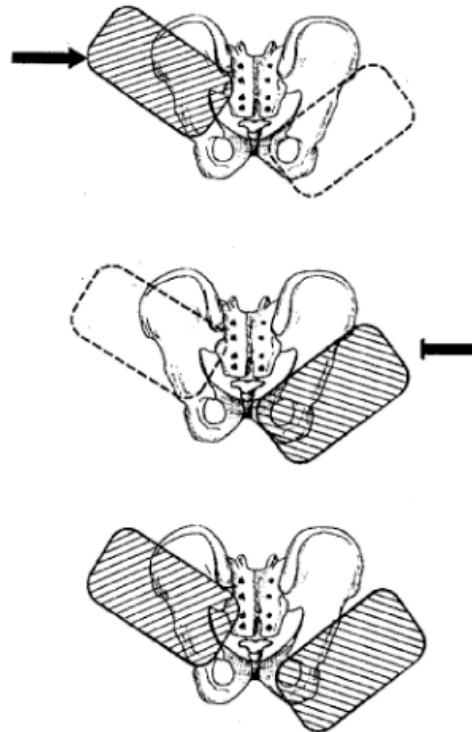
Category 3 Leg Length Assessment: With the patient prone and their hands gripping the head of the table the doctor applies traction to the patient's ankles, thumbs just distal to the medial malleolus. Traction is applied for 30 seconds as patient pulls on the head of the table to relax hamstrings. After 30 seconds the patient relaxes while the doctor maintains traction and bring the medial malleoli together assessing short leg side.

Block Position for Category 3 (Right Short Leg)

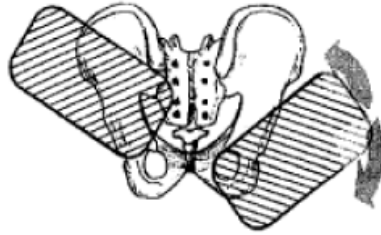
Position of Long Leg Block: The long-leg block is inserted under the ASIS, pointing obliquely 45° caudally toward the opposite acetabulum.

Position of the Short Leg Block: The short-leg block is inserted obliquely under the acetabulum pointing obliquely 45° caudally.

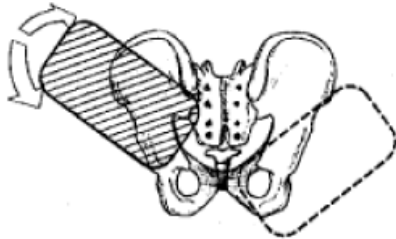
Position of Both Blocks at Initial Stage of Category 3 Block Placement: This is the beginning position which by reducing pelvic torsion can begin to relieve stress upon the discs and sciatic nerve



**If Pain is Relieved Then Leave Patient for 15- 60 Minutes
If Pain is NOT Relieved by 1-2 Minutes Then Begin Modifying Block Position ¹**



Adjusting the Short Leg Block: Begin with the short-leg block rotating block caudally in 10° increments waiting 30 seconds to determine by the patient's response, the best possible block position. If any caudal position fails to reduce pain, restore block to initial position and adjust block cephalad in increments of 10°. If no position creates any pain relief return block to initial position.



Adjusting the Long Leg Block: After the optimum position of the short-leg block is determined then repeat the above procedure with the long-leg block, first caudally then cephalad. Usually a specific position of the short and long-leg block will be found that will create some degree of pain relief.

Once the optimum pain relief position is determined by block position then the patient is allowed to relax. During this relaxation period, which can be 15-60 minutes, the cervical indicators are monitored. If they are no longer painful or swollen then allow the patient to rest. If cervical indicators are still painful and swollen then apply gentle pressure to the specific related lumbar vertebra in the direction opposite to the what was determined by the cervical indicator. For example a n inferiority would be lifted gently superiorward while a rotation to the right would be gently rotated to the left. Sometimes force will need to be vectored to the position that creates the greatest cervical indicator pain relief. Physical therapy can be employed however usually cryotherapy for 15 minutes is sufficient.

The patient is cautioned against sitting long periods of time, prolonged bed rest, lifting, and advised to carefully get up and down from seated positions. Often a lumbosacral brace can be helpful as well as home use of ice for 15 minutes every hour. The rule is that if the painful area on the back is warmer than any other area of the body then ice is indicated, always with cloth between ice and skin. If they can, gentle walking short distances can be helpful but they should not perform activities that increases their pain. Sleeping can be difficult and usually a pillow under their knees while supine or between their knees if on their side can help them significantly.

Generally 2-3 treatments are sufficient to get the patient out of the acute phase. If their condition persists, is not congruent with your SOT indicators ², or is unresponsive to treatment further evaluation is indicated. Sometimes a referral for allopathic co-treatment will be indicated as well as further diagnostic studies. In depth study of SOT category analysis and treatment will be presented at SOTO-USA's regional seminars, see the Events page at www.soto-usa.org website for information or call (336) 793-6524

REFERENCES

1. Monk R, **2006 SOT Manual**, SOTO-USA: Winston-Salem, NC, 2006.
2. Blum CL, " **Incongruent sacro-occipital technique examination findings: Two unusual case histories** ." Proceedings of the ACC Conference IX, *Journal of Chiropractic Education* Spr 2002; 16(1): 67.
3. Pfefer, MT, Rasmussen S, Uhl NS, Cooper S, **Treatment of a lumbar disc herniation utilizing sacro occipital chiropractic technique** Proceedings of the ACC Conference X, *Journal of Chiropractic Education* Spr 2003; 17(1): 72.
4. Blum C, **Sacro Occipital Technique Pelvic Block Treatment for Severe Herniated Discs: A Case Study** , Poster Presentation: Proceedings of the ACC Conference XI, *Journal of Chiropractic Education* Spr 2004.
5. Blum CL, Esposito V, Esposito C, **Orthopedic Block Placement and its Affect on the Lumbosacral Spine and Discs: Three Case Studies with Pre and Post MRIs**, Proceedings of the ACC Conference X, *Journal of Chiropractic Education* Spr 2003; 17(1): 48.
6. Blum C, Lovett Brothers: **The Relationship Between the Cervical and Lumbar Vertebra** *The Journal of Vertebral Subluxation Research* Apr 2004; 6(1): 1-3.
7. Cooperstein R, Lisi A, **Pelvic Torsion: Anatomic Considerations, Construct Validity, and Chiropractic Examination Procedures** *Topics in Clinical Chiropractic*. 2000 Sep; 7(3):38-49
8. Klingensmith RD, Blum CL, **The Relationship Between Pelvic Block Placement and Radiographic Pelvic Analysis** *Journal of Chiropractic Medicine* Summer 2003; 2(3): 102-6 .
9. Coopertein R, " **Padded Wedges for Lumbopelvic Mechanical Analysis** "*Journal of the American Chiropractic Association*, Oct 2000: 24-6.
10. Lisi AJ, Cooperstein R, Morschhauser E, **An exploratory study of provocation testing with padded wedges: Can prone blocking demonstrate a directional preference?** *Journal of Manipulative and Physiological Therapeutics* Feb 2004; 27(2):103-8.

Blum CL, **Managing Acute Low Back Pain**, *The American Chiropractor*, Apr, 2006; 28(5).