

RE: Cullaty M. Suspected sacroiliac joint dysfunction; modifying examination and intervention during pregnancy. *J Women's Health PT*. 2006;30:18-24.

Dear Editor,

We congratulate Martha Cullaty, MPT, MEd on her cases study which tackled a challenging client who was 7-months pregnant, with severe pain and considerable functional limitations. The author described some limitations of palpation and positioning, and then described some valuable alternative positions. However, some useful alternatives were not utilized, such as sitting and side lying. Specifically, sitting on a backless bench or stool, with the patient's upper torso supported on a plinth with or without extra pillows for support, gives the clinician excellent ability to palpate structures that would normally be palpated in prone. [Some pregnant patients can indeed tolerate short periods of prone lying, if pillows are utilized above and below the abdomen.] The "Muslim prayer position" for maximized flexion often gives useful information which is absent in other flexion postures such as sitting. All of these alternate positions could have enabled the author to directly palpate the sacrotuberous ligament. Changes in the tone of the sacrotuberous ligament tone can be used to evaluate response to treatment of the anterior ilium (AI) sacroiliac joint (SI) dysfunction (SIJD).¹ Tone should change from hypertonic to near normal (at least when non weight-bearing) if treatment repetition and duration are adequate.

Because the pelvic asymmetry was present at the beginning of all 15 visits, without maintained correction, we cannot help but wonder if enhancing the evaluation and treatment, would have been worthy of consideration. The Muscle Energy Treatment (MET) paradigm² recognizes lumbar, sacral and symphysis pubis motion dysfunction. I believe that these structures should be evaluated, such as in sitting or side-lying. As the SIJ is a triplanar structure. perhaps the corrections failed to be maintained because the author's choice of treatment in this case emphasized only one plane of dysfunction. One reference in the case study used MET in all 3 planes to treat lumbosacral movement dysfunction.³ Cullaty's case study treated the left SIJ in one plane (extension) and the direction of force was an average of 30-45 degrees away from the average para-sagittal plane of the joint. DonTigny⁴ has described a treatment for AI that addresses all 3 planes, taking the knee to the outside of the axilla, with hip in flexion, abduction and external rotation.

The author was very appropriate in addressing hip extension restriction. We could not discern from the article whether or not the bilateral hip restriction was treated or whether treatment focused on the left side DonTigny suggests that AI can be unilateral or bilateral and can couple with an upslip movement dysfunction of the ilium. Bilateral AI remains a possibility in this case presentation. Symmetrical ASIS's do not rule out bilateral SIJD. In agreement with Cullaty's statement that treatment effects support or discourage the working diagnosis of SIJD, DonTigny uses continued leg shortening on each side as evidence for bilateral AI, and treatment is continued on both sides; until no further shortening occurs. Cullaty was generous with her use

¹ Hesch J. Evaluating sacroiliac joint play with spring tests. *J ObGyn PT*. 1996;20(3):4-7.

² Greenman PE. *Principles of Manual Medicine*. Baltimore: Williams & Wilkins; 1989:88-93, 204-270.

³ Wilson E, Payton O, Donegan-Shoaf L, Dec K. Muscle energy technique in patients with acute low back pain: a pilot clinical trial. *J Orthop sports Phy Ther*. 2003;33:502-512.

⁴ DonTigny R. Anterior dysfunction of the sacroiliac joint as a major factor in the etiology of idiopathic low back pain syndrome. *Phys Ther*. 1990;70(4):250-265.

of references, I believe that bilateral SIJD is not reported much in the research literature, particularly the MET literature. However, bilateral SIJD is in fact, a part of the larger Osteopathic SIJ paradigm; of which MET is only one treatment approach.⁵ I envision that our profession will someday have our own comprehensive model of SIJ evaluation and treatment, which at present is in the process of evolving.

Another model suggests that whether unilateral or bilateral, AI is part of a sequence of SIJ/pelvic movement dysfunctions that should all be sequentially treated.⁶ Joints other than the SIJ proper are intimately related to SIJD. Specifically, the pubic symphysis is a key structure in pelvic stability. (OK, we need a reference here.) Also, we have found that direct palpation of the pubic crests, tubercles, length of the anterior pubic bone, and the PS cartilage provides a wealth of information, not only on symmetry, but also concerning tone and pain. Although the client in this case study was in considerable pain and dysfunction, I could still envision some assessment of this structure, and in fact treatment through indirect techniques. An outcomes study has recently been submitted for presentation and publication which utilizes this newer approach. The average number of visits to resolve SIJD in the pregnant population was less than 6.⁸ Another diagnostic consideration for the case study would be thoraco-lumbar movement dysfunction. This could be primary, perhaps more likely secondary, consistent with the postural and pain pattern. This has been addressed by Maigne.

⁹ Another consideration would be space-enhancing pressure on the para-inguinal nerves (neuropathy). Empirically I can state that neuropathy can occur without a loss of light touch sensation, perhaps due to considerable overlap and the fact that a great portion of them are deep to the skin, within the inguinal canal. Peripheral neuropathy could be a concomitant diagnosis with SIJD, and I suspect it would frustrate treatment attempts, until parturition.

We compliment the author on mentioning creep, although not a MET concept, it is nonetheless; very relevant regarding SIJD. She addressed the problem of creep through strengthening and by prescribing a non-elastic SIJ support. We look forward to future contributions on this topic from Ms. Cullaty and again congratulate her on a publication so early in her career. We thank her and the editor for the opportunity to dialogue on this challenging topic. Worthy of mention is what is perhaps an underutilized free resource on this topic and other clinical topics, which is the APTA Mentors.

Sincerely Yours,
Jerry Hesch, MHS PT
Christina Gregor-Maxwell, MS PT AT

⁵ Greenman PE. *Principles of Manual Medicine*. Baltimore, Williams & Wilkins. 1989:224.

⁶ Hesch J. *The Hesch method of treating sacroiliac joint dysfunction: integrating the si, symphysis pubis, pelvis, hip, and lumbar spine*. Henderson, NV self-published, 2006.

⁷ Chase D. Personal communication. 2005.

⁹ Maigne R. Low back pain of thoracolumbar origin. *Arch Phys Med Rehabil*. 1980;61(9):389-95.